Michigan Department of Transportation (MDOT)
Construction Field Services Division

Pavement Historical Database (PHD)

User Guide

January 2014

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PHD *User Guide*

Chapter 1

Overview

1.1 - Introduction

System Purpose

The Pavement Historical Database (PHD) is a centralized electronic data warehouse. It is designed to store "As Built" pavement typical section information and materials data on Michigan's state-owned roads (trunkline). The data can be quickly and easily searched, sorted and exported.

System highlights:
The historical records contained in PHD provide the basis for an improved pavement management system.

Information from the typical sections of the "As Built" plans and the project mix designs is stored in PHD's centralized electronic format using the project specific Physical Reference (PR) numbers and milepoints as a linear referencing system. With data stored in this manner the system can be queried using a variety of filter criteria, including specific route segments, specific materials, and suppliers.

Anticipating the queries PHD users would find valuable, several reporting functions are included in PHD. For example: The "Construction History Report" can be used to search for information on a specific route segment; the "Material Information Report" can be used to search for specific materials used on any trunkline statewide, in any region, or in any Transportation Service Center (TSC); and the "Work Type Report" can be used to search for specific items of work statewide, or in any Region or TSC.

Anticipated uses include:

- Scoping and estimating
- Materials or work type trend analysis
- Asset management, mapping, and sufficiency functions
- Pavement management data analysis
- Historical research
- Export raw data for extended uses

System Users

PHD is intended for use by Michigan Department of Transportation (MDOT) personnel doing research on individual state routes, as well as performing materials trend analysis and asset/pavement management functions. Only MDOT employees with state ID have access to PHD. Therefore, all users will be MDOT employees and cannot be consultants.

Some users will be assigned data entry roles. Users assigned data entry roles should have the ability to read the typical section of a set of road construction plans and a mix design, and possess a basic knowledge of the framework and the PR number referencing system.

Users are assigned different levels of access to PHD functions based on their roles and responsibilities.

The following table illustrates the users, their role, and their expected use of the system:

User Classification	Primary Application Use
Application System Administrator	User Management, Export Data
Data Administrator	Input, Inquire, Generate Reports, Export Data
Management (Region, TSC, MDOT)	Inquire, Generate Reports, Export Data
Project Development/ Delivery Staff	Input, Inquire, Generate Reports, Export Data
Maintenance	Input, Inquire, Generate Reports, Export Data
Pavement Management Group	Input, Inquire, Generate Reports, Export Data
Construction Field Services	Input, Inquire, Generate Reports, Export Data
Traffic and Safety	Inquire, Generate Reports
Data Entry	Input historical data from non-electronic sources. These could be “temporary” users that may be doing the initial data load but may not be an on-going user. They might also be restricted to data input and correction only.
Transportation Planning (Statewide Planning)	Inquire, Generate Reports

1.2 - System Information

Access PHD

PHD is accessed through the State of Michigan Single Sign On (SSO) webpage. After signing in to SSO, PHD can be selected from the list of user subscribed applications. SSO is a State of Michigan webpage designed to facilitate State of Michigan web-based applications.

Before subscribing to SSO and PHD, a supervisor email must be sent to the PHD System Administrator indicating that there is a 'business need' to gain access to PHD. Additionally, this email should include user role (see Role Summary below) and assignment location (see Assignment Location below) of the subscribing MDOT employee.

If new to SSO, you will need to click *Register* on the SSO webpage Login/Sign-Up screen to create a User ID. An email with a temporary password will be sent to confirm the subscription to SSO. The temporary password will be changed after you sign in. The SSO Login/Sign-Up screen can be accessed with the following url:
https://sso.mdch.state.mi.us/

After signing in to SSO, subscribe to the PHD SSO application by selecting the *Subscribe to Applications* link at the bottom of the Application Portal page. In the Subscription page, select *Dept of Transportation* in the left drop-down list and then select *MDOT Pavement Historical Database* in the right drop-down list. Continue and confirm the next pages. The message "Your subscription request has been submitted successfully. You will be notified upon approval" should appear upon completion. The PHD application request will then be sent via email to the PHD Application System Administrator for approval. The PHD Administrator will review the request and confirm the request with user role and assignment location. After this is complete, MDOT Pavement Historical Database will be shown in the Application Portal and have the correct user role and assignment location when selected. If this does not occur within a few business days, email the PHD System Administrator to verify.

To contact the PHD Application System Administrator email:
MDOT-PHD-SYS-ADM@michigan.gov

Role Summary

Read Only users are given access to all reports in PHD.

Data Entry users are authorized to create and modify jobs and their data in PHD. Data Entry users can finalize PHD jobs for review, but cannot finalize PHD jobs for submittal into the PHD database.

Data Owners are users who are authorized to create and modify jobs and their data in PHD. Data Owners use the Review menu to approve and then finalize PHD jobs for submittal to the PHD database. These users can change PHD job assignment different to Data Entry users using the Reassign menu.

Administrators have unique access to the Administration menu in PHD. Administrators manage user access and define units, attributes, and layers available in the PHD system through this menu.

The Reports menu is available to **all users** who are authorized PHD users.

PHD roles are summarized in the Role Definition Table below:

Role Definition Table	
Role	**Definition**
Read Only	• Menu access: Search Segment(s), Export Data, Reports • Read-only role
Data Entry	• Menu access: Create, Modify, Search Segment(s), Export Data, Reports • Creates and modifies jobs • Enters “As Built” data • Finalizes PHD jobs for review, but cannot Finalize PHD jobs for submittal into the PHD database
Data Owner	• Menu access: Review, Reassign, Create, Modify, Search Segment(s), Export Data, Reports • Can create and modify jobs • Can enter “As Built” data • Reviews Data Entry submitted jobs • Finalizes PHD jobs for submittal into the PHD database
Application System Administrator	• Menu access: Administration, Reports • Modifies user information • Modifies attributes, layers, and measurement units

Assignment Location

Creating jobs or editing data are limited to the Assignment Location granted by Administrators. The Assignment Location will indicate the user TSC, Region, or Statewide jurisdiction.

Users are limited to their Region, unless the user is granted the "Statewide" location designation. Therefore, users with TSC access may reassign or complete segment data entry for those that are still within their Region. For example, a user with granted access to the Brighton TSC can complete or enter jobs within the University Region.

About This Manual

The User Manual can be downloaded as a PDF file. Some users may only refer to the guide when they run into a procedure they are less familiar with; others may keep the manual available as a reference guide. It may be helpful to print all or only parts of the guide, or simply refer to it as an on-line support.

Intended Audience

The Intended audience for the Pavement Historical Database (PHD) User Guide are:

- MDOT TSC Development, Delivery, and Maintenance
- MDOT Operations
- MDOT Region Pavement Management Engineers, Traveling Mix Inspectors, and Region Management
- MDOT CFS Pavement Management, and Materials and Testing
- MDOT Traffic and Safety
- MDOT Project Planning Division

User Guide Topics

This User Guide Covers how to:

- Access PHD and log in to the system
- Navigate through the application
- Understand features and functionality
- Create and Modify MAP and Non MAP post construction records
- Export data
- Produce Reports
- Search pavement segments
- Print or save PHD records and reports

User Guide Structure

This manual consists of 10 Chapters and is intended as a comprehensive User Guide for PHD.

Chapters 1 and 2 provide an introduction to the system, conventions and the PHD application environment.

Users who will be entering data will find it very helpful to read Chapter 3 (Create and Modify Jobs in PHD) and Chapter 4 (Simplified CPM Format for PHD Jobs).

Users who will be reviewing and finalizing reports will be interested in Chapter 3, Chapter 4, and Chapter 5 (Review and Reassign).

Users simply interested in querying the database will find information in Chapters 6 (Search Segments), Chapter 7 (Export Data), and Chapter 8 (Reports).

The PHD application system Administrators will find information in Chapter 9. It contains information on how to assign roles to individual users, how to create the layers, attributes, and units that will be collected, and how to unlock a previously finalized report.

Chapter Number	Chapter Name	Description
1	Overview	System overview and PHD access.
2	Getting Started	Introduction to the PHD environment, PHD conventions, Navigation, and Sort/Search filters.
3	Create and Modify Jobs in PHD	Steps to create new jobs in PHD, and enter “As Built” data.
4	Simplified CPM Format for PHD Jobs	Defines the Simplified CPM format, and outlines the different steps to create jobs and enter data.
5	Review and Reassign	Steps to review and reassign PHD jobs.
6	Search Segments	Steps to run: • General criteria search • Attribute / Aggregate characteristics search • PR Criteria search

Continued >

Chapter Number	Chapter Name	Description
7	Export Data	How to work with the export filter and export data.
8	Reports	Reports overview and steps to run these reports: • Construction History • Material Information • Material Quantity • Network Inventory • Work Type • MAP Reconciliation
9	Administrative Functions	Reviews administrative functions including user and application management.

Finding Help

Click on the **PHD Help** link, which is on the top of every screen.

The PDF file will either open or the user will be prompted to download the file and save it to the PC.

Additional Support

The **PHD website** is available for MDOT personnel to obtain further details and information. It can be accessed with the following url: http://inside.michigan.gov/sites/mdot/highways/construction/phd/SitePages/Home.aspx

The **PHD Contact** link, available at the top of each page in PHD, displays contact information for technical and business support.

1.3 - Business Guidelines FAQ

Frequently Asked Questions

MDOT personnel can also access the **PHD website** for additional Frequently Asked Questions. It can be accessed with the following url: http://inside.michigan.gov/sites/mdot/highways/construction/phd/SitePages/Home.aspx

What types of projects are entered into the pavement historical database?

In general terms, any project that affects the section or geometrics of a segment of a state route that is 0.1 mile long or longer is required for entry into the PHD database. This includes reconstruction projects, rehabilitation projects, or Capital Preventative Maintenance (CPM) projects. Examples include crack seal, surface seal, Hot Mix Asphalt (HMA) overlay, concrete pavement repair, passing relief lane, bridge approach, and commercial widening projects. At its own discretion a Region may also enter data for projects less than 0.1 mile long.

How do I prepare for PHD data entry for a recent construction project?

You will need a copy of the "As Built" plans, or "As Built" project information, and the mix design for the HMA or Portland Cement Concrete (PCC) pavement. For Crack Seal, Chip Seal, or Micro-Surface projects you will need a copy of the testing order.

If the pavement section changes throughout the project you will need to know at what PR milepoints the section changes are occurring so you can create the appropriate sub-segments.

It is also helpful to know if this project is one of the "Special Project Types". Typically the TSC and Region Offices know which projects are *CPM Emerging Technology* projects or *Pavement Demonstration Projects*. Additionally, this information may be documented in your Region's annual *Call for Projects* submittal.

Once you have these project items and the project information, refer to the step by step instructions in Chapter 3 - Create and Modify Jobs in PHD.

Frequently Asked Questions

(Continued)

What about projects not let through MDOT's bid letting system, that is, projects not in the MAP database?

These types of projects are considered Non MAP jobs. Examples of these types of projects not let through MDOT's bid letting system include maintenance funded "M" projects, TWA projects, warranty work, work performed directly by MDOT forces, and work performed under permit (such as widening/auxiliary lanes constructed for a commercial driveway).

In addition to the project documentation, **before** entering project data in PHD you will need:

- appropriate job number (see the table on the following page),
- work type code,
- Non MAP job type,
- open to traffic date,
- fix life,
- current PR (Physical Reference) Number version, and
- beginning and ending milepoints.

Use PR Finder as a resource. **PR Finder** is a Michigan Department of Transportation online mapping program that helps to identify the PR (Physical Reference) number and milepoints for all roads in the state of Michigan. This website is open to the public. It can be accessed with the following url:
http://www.mcgi.state.mi.us/prfinder/

The appropriate Job ID is assigned by the user before PHD data entry. The table on the following page defines the types of projects and Job ID naming convention guidelines.

Project Type	Definition	Naming Convention
Maintenance	Maintenance funded work let through MDOT or another agency.	Use the job number including the letter "M" that precedes it.
TWA	Transportation Work Authorization funded.	Use the TWA number. Your region financial analyst can provide the number, or assign a number if needed.
Warranty	Work performed under the terms of a project warranty.	Use the prefix "W" followed by the original 5 or 6 digit job number.
Direct Forces Work	Work performed by MDOT employees or contract county forces.	Create a direct forces work reference number for PHD use only. Use the following conventions: **DYYYYCNrouteBMP** 1. The prefix "D" followed by four digits representing the year. 2. The two digit county number. 3. The route. Use an alpha numeric with a hyphen as separator; for example, "US-31" or "US-31BR". 4. The beginning milepoint. (Including the decimal point) ⚠ There is a twenty character limit.
Historic	Projects let and constructed by MDOT prior to the implementation of MAP and therefore without MAP job numbers.	Use either the project number from the title sheet of the historic plans or the records used for the data entry.
Permit	Work constructed by others under permit; i.e., widenings for commercial driveways or utilities work.	Use the prefix "P" followed by the last 10 digits of the permit number. The TSC permit agent will be able to provide this information.

Frequently Asked Questions

(Continued)

How are the lanes numbered?

Lanes are always numbered right to left looking toward increasing milepoints in the PR segment. The right-most mainline lane for the PR is always number 1. Lanes to the left of lane 1 would be lane 2, lane 3, and so on. Additional lanes or ramps to the right of lane 1 would be lane 0, lane -1, and so on. Typically, divided roadways have a different PR number for each direction, so they are numbered separately.

When do I break a segment down into multiple sub-segments?

Sub segments should be created when the geometry of the lanes or the shoulders, or the attributes of the layers making up the section. Segment changes that warrant sub segments, but are less than 0.1 mile do not require sub segmentation. Segments less than 0.1 mile may be entered with the adjacent segment at the user's discretion. It is advised however, that segments less than 0.1 mile involving additional lanes (turn lanes for example) be entered as separate segments and not included in adjacent segments to capture that additional lane-mileage.

How do I enter layer data for lanes with part width construction and differing support conditions?

If the pavement is partially paved, select 'Yes' for the data entry item 'Partial Width Paving'. Then select the width of paving in the new 'Paving Width' box below.

If a lane has a layer with part width of one material and part width of another material, then the layer should be whichever material was placed as part of the job currently being entered into PHD.

If both materials were placed as part of that same job, then the layer should be whichever material makes up a majority of the lane.

If the widths are identical (a 50/50 split), and part of the width is PCC pavement and part is HMA pavement, then the layer should be entered as the PCC pavement.

Frequently Asked Questions

(Continued)

How do I enter the application rate or thickness of a pavement layer when it is a variable thickness layer?

When an HMA wedge course has been used in a pavement section, select the layer "HMA Wedge Course" in the appropriate place in the section you are creating in PHD, and then fill in the attributes of the wedge course when you are prompted to do so.

For cases where an HMA Top Course has been intentionally placed in a variable thickness layer, for example in a crown modification, as you are filling in the appropriate attributes, select the average HMA application rate used.

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PHD *User Guide*

Chapter 2

Getting Started

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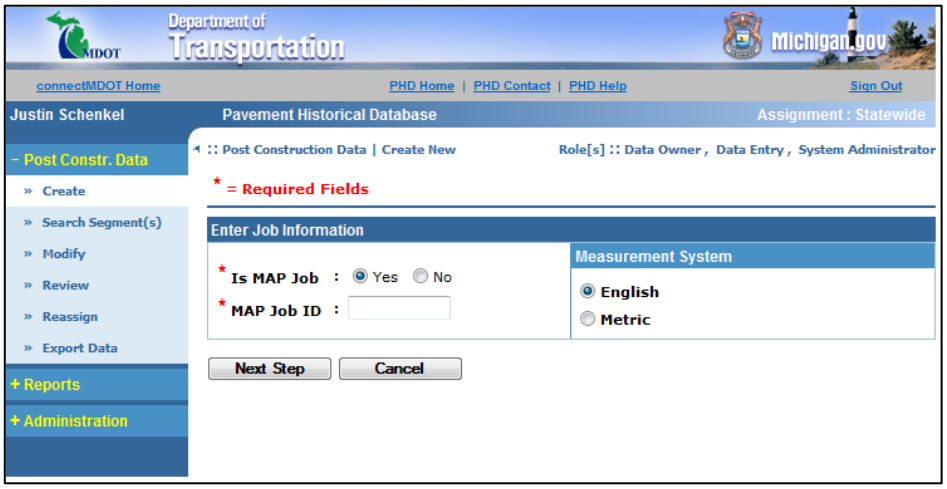
2.1 - Interface Appearance

Summary

The Pavement Historical Database (PHD) is a Web based application, hosted through the MDOT Intranet. The PHD application opens in a Web browser (e.g., Internet Explorer).



The screens have a similar look and feel, and navigation links are always in view and available. This makes the system easier to learn and more user intuitive.

2.2 - Conventions

PHD Standards

There are standard navigation links, headings, symbols and messages used throughout the PHD Web interface:

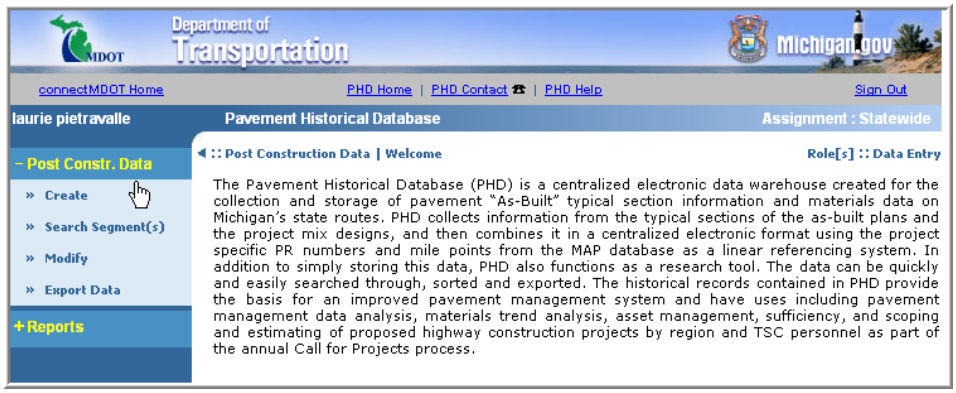
- Standard navigation links in PHD available from any active page
- Page headings indicate what page is active while entering or retrieving information
- View full screen icon ◄::
- Required field symbols and visual screen tips
- On screen error and confirmation messages
- Data entry fields: text, lists, option and command buttons, and "select all" checkboxes
- Links to Job record and layer details
- List and Record filters
- Search criteria filters and wildcards
- Reports viewed or saved in PDF or Excel format

2.2.1 - Navigation

Getting Around in PHD

Once signed in to PHD, the "Welcome" page displays. Access to individual menus is dependent on user role (see Chapter 1 - Overview for further details).

Click to select a menu from the **Navigation Panel** on the left side of the window.

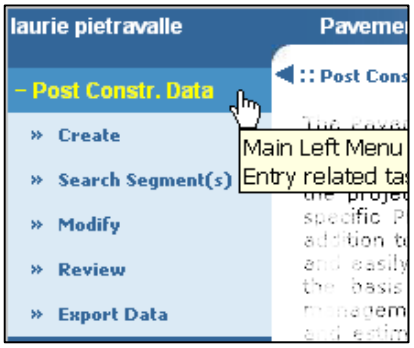


Getting Around in PHD

(Continued)

Each menu, (Post Construction Data, Reports, and Administration), contains secondary menus which serve as navigation links to PHD features. Menu availability is based on user role (see Chapter 1 - Overview for further details).

All main menus and sub menus are displayed below:

Menu	Sub Menus
Post Construction Data Menu	• Create • Search Segment(s) • Modify • Review • Export Data 
Reports Menu	• Construction History • Material Information • Material Quantity • Network Inventory • Work Type • MAP Reconciliation 
Administration Menu	• View/Modify User • Create Unit • View/Modify Unit • Create Attribute • View/Modify Attribute • Create Layer • View/Modify Layer • Unlock Report 

PHD Header and Links

The top of each page in PHD retains the same "header". Aside from showing the user logged in, it identifies the application and the user assignment (Statewide, Region, TSC, or None). An example of the "header" is shown below:

Links to the following are also available:

Link	Descriptions
Department of Transportation	Opens the MDOT public website: www.michigan.gov/mdot
Michigan.gov	Opens the Michigan.gov public website: www.michigan.gov/
connectMDOT Home	Opens the MDOT employee intranet home webpage: http://inside.michigan.gov/mdot/Pages/default.aspx
PHD Home	Displays the PHD home page.
PHD Contact	Displays business and technical support; includes contact name, phone number and email.
PHD Help	Displays the PHD User Guide in a new window (PDF format).
Sign Out	Signs the user out of the application.

Back, Cancel, & Save

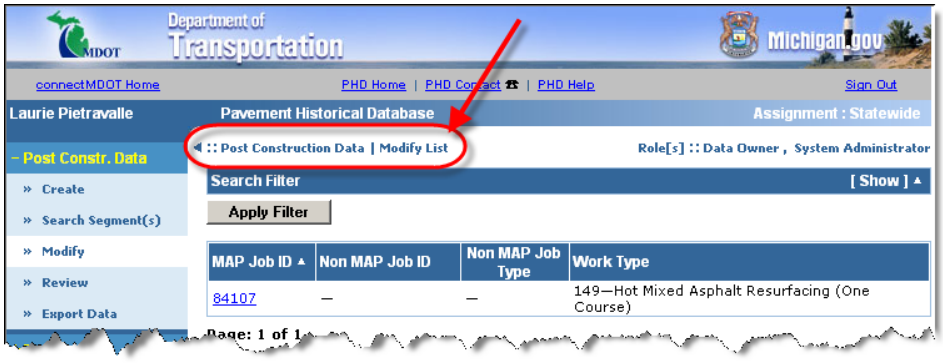
Back, Cancel, and Saving buttons will be displayed throughout different screens in PHD. It is important to understand the functionality of each of these buttons. The following is an overview of each button:

- Back:
  - Takes the user to the previous screen.
  - WARNING: Any changes since the last save may still appear if the screen is reentered, but they are not saved. Data will be lost if a project is exited without saving the changes.
- Cancel:
  - Leaves the current job and takes the user to the initial submenu screen.
  - WARNING: Entered data will be lost if it is not saved.
- Save:
  - Saves the data on the current screen.
  - WARNING: Selecting save may not save data on other screens. For example, multiple lanes can be created and edited. Selecting save does not save all lanes, only the current lane. Save often and make sure to save before moving to a new screen.

2.2.2 - Page Headers

Active Screen

Information below the "header" and next to the Navigation Panel identifies the Active Screen the user is in. The Active Screen indicates the main menu and active submenu. An example is shown in the illustration below; the circle and arrow identifies the Active Screen:



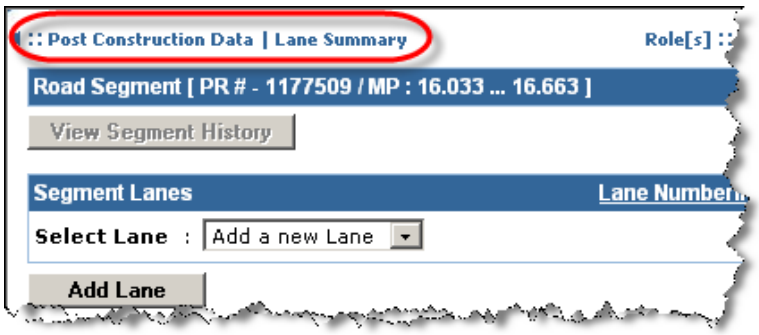
Note: In this example, the main menu is Post Construction Data and the active submenu is Modify List. The Active Screen will be referred to as the Modify List screen.

Active Screen

(Continued)

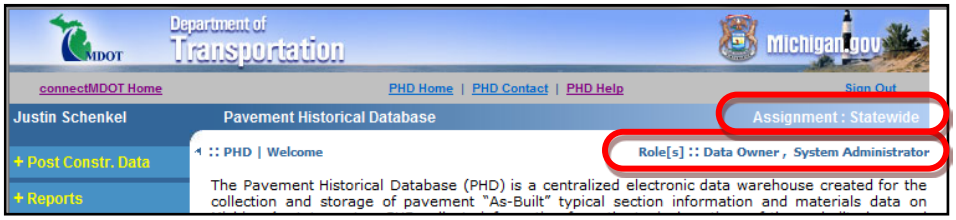
The active PHD menus are shown in the Navigation Panel. The active main menu will be expanded with its associated secondary menus below and the active secondary menu will be highlighted. For example, the illustration above shows that the Post Construction Data menu is expanded and the Modify menu is highlighted. This indicates that the user has selected the Modify secondary menu and may be working in one of its submenus.

The Active Screen changes depending on which submenu the user is working in. In the Modify menu, for example, there are additional submenus to enter different information. The Active Screen information changes according to the submenu in use, as shown below:



User Role and Assignment Location Display

Information to the right of the Active Page and below the "header" displays user role and assignment location (see Chapter 1 - Overview for further information). An example is shown in the illustration below; the top circle identifies the assignment location and the bottom circle identifies the user role:

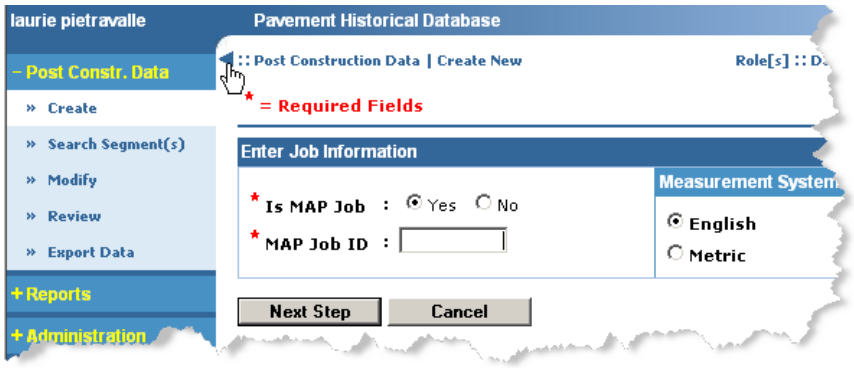


Note: In this example, the displayed PHD roles are Data Owner and System Administrator. The assignment location is Statewide.

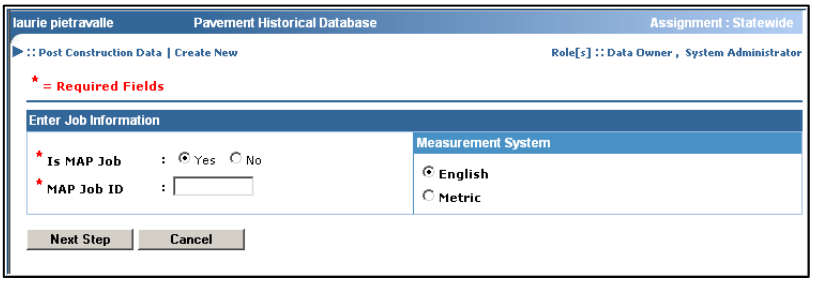
2.2.3 - Full Screen Icon

Switch to View Full Screen and Back Again

The full screen icon, ◄:: next to the Active Page works as a "toggle" switch between a "full screen" and normal screen view.



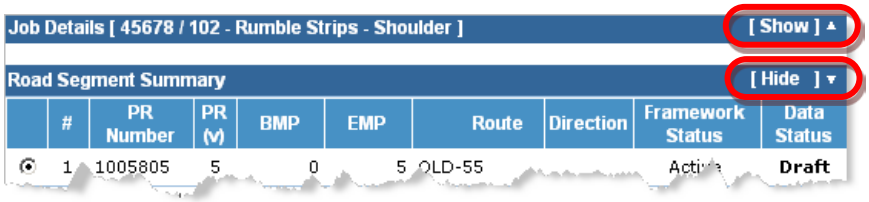
By selecting the ◄:: icon, the Navigation Panel will "collapse" and provide more viewable main page area as shown below:



To view the Navigation Panel again, click the ►:: icon next to the Active Page.

Show/Hide

Some pages contain panes with data fields that can alternatively be shown or hidden, depending on the need. Click **[Show]** to expand the section and then **[Hide]** to collapse when done.



2.2.4 - Screen Prompts

Required Fields

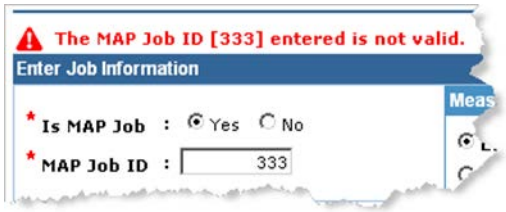
PHD may require data entry before other screens can be entered or data can be saved. A red asterisk * designates a required field. It is displayed to the left of the field name. There may be more than one required field in a page, as shown in the example below:

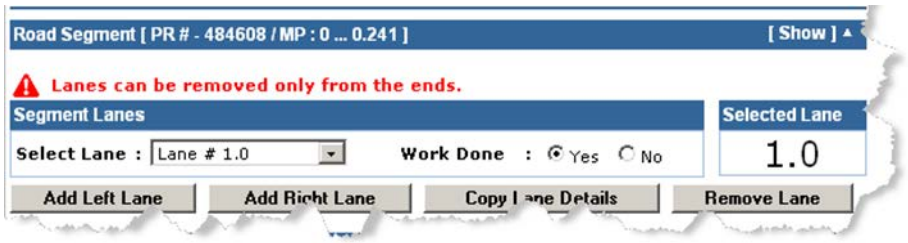
Data entry is "required" or considered necessary:

- to extract the data needed for a query or search,
- to store relevant data in the system.

Error Messages

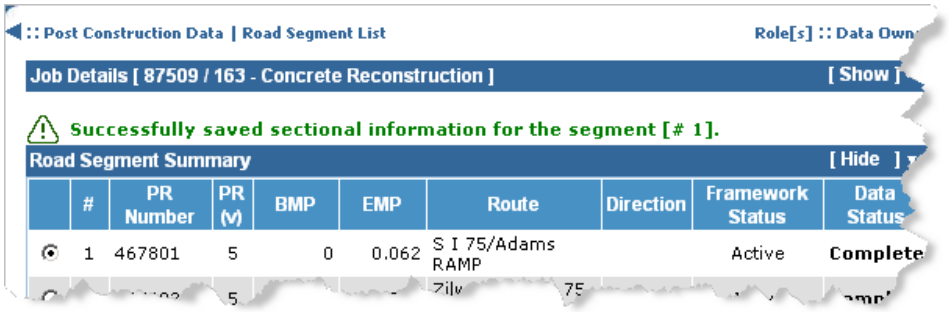
Red error messages display at the top of the screen as a warning, or as a notification.





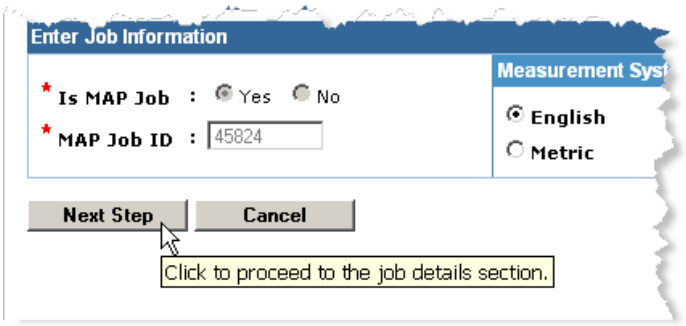
Confirmation Messages

A green confirmation message will appear below the screen header when a record is successfully saved, updated, or completed.



Screen Tips

Pausing the mouse (cursor) over a command button triggers a visual screen tip.



2.2.5 - Data Entry Fields

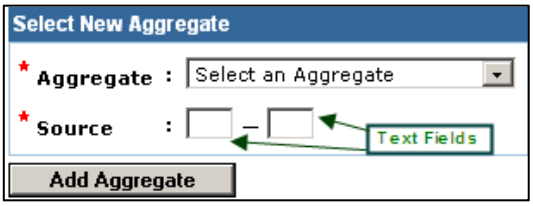
Summary

There are a variety of formats developed to enter data more efficiently system wide. The most commonly used are:

- Text fields
- List boxes
- Select Options (radio buttons and checkboxes)

Text Field

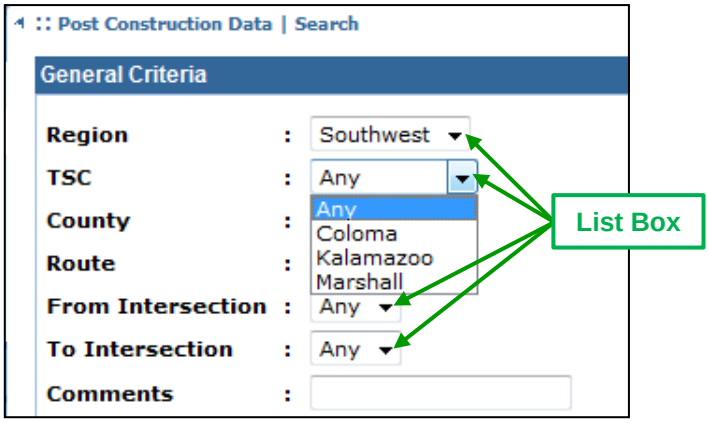
A text field is a labeled rectangular area used to enter data (text or numbers) in the system.



Drop-Down List Box

Some fields have "defined" possible text (or numbers) for input into the system. Choosing from a list keeps data consistent when stored in the system. This is critical for accurate data displayed in search results and reports, for example. Lists are used to filter results.

Clicking the  arrow displays a list of choices, as shown below:



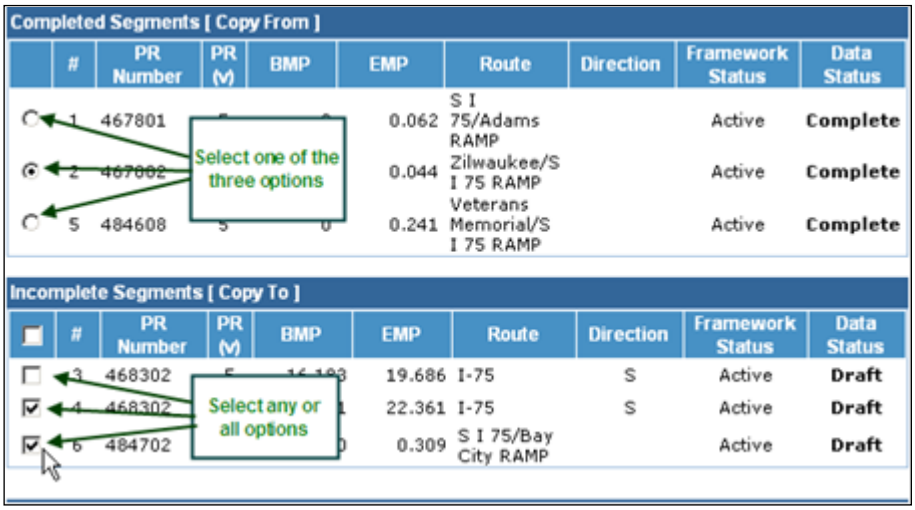
In many of the lists, the first choice will validate other lists in the section. For example, if the choice is a particular region, only the appropriate TSCs for that Region display in the next option list. "Any", meaning TSCs in the entire Region, is also an option in a list.

Continue to filter or define choices in a section through additional lists. In the above illustration, no fields are "required". The list of Counties available in this example would be dependent on the choice of TSC. Routes would default to "any" if a specific County had not been chosen.

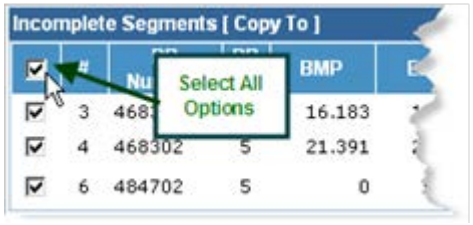
Select Options

Some options are “either/ or” selection types. This condition is identified when radio buttons are used:

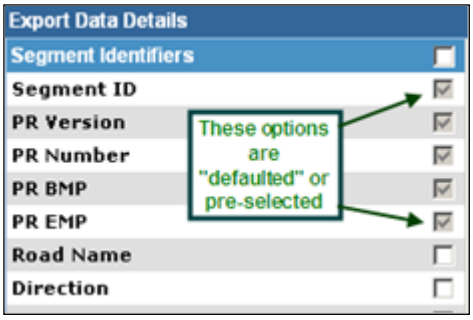
Others allow multiple selections. This condition is identified when check boxes are used:

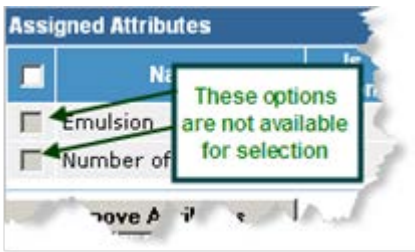


Check boxes have also have a shortcut to choose all options available:



Some options are not available to select, and appear grey:



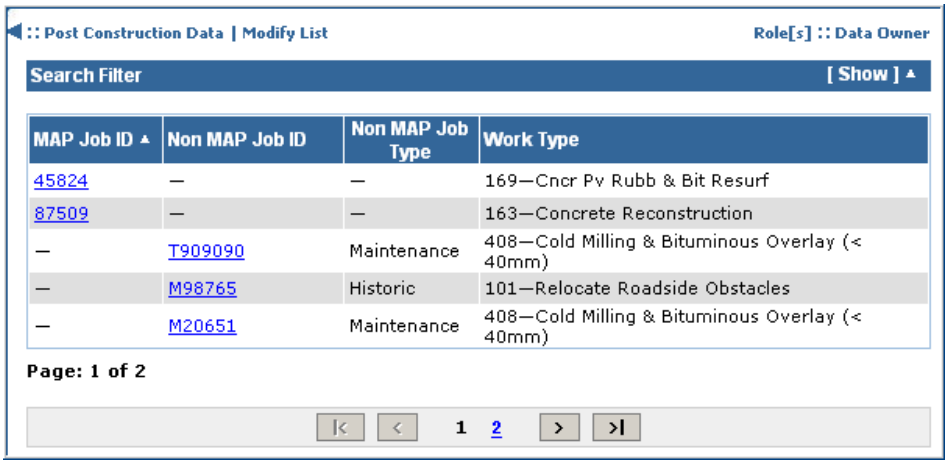


2.2.6 - Links

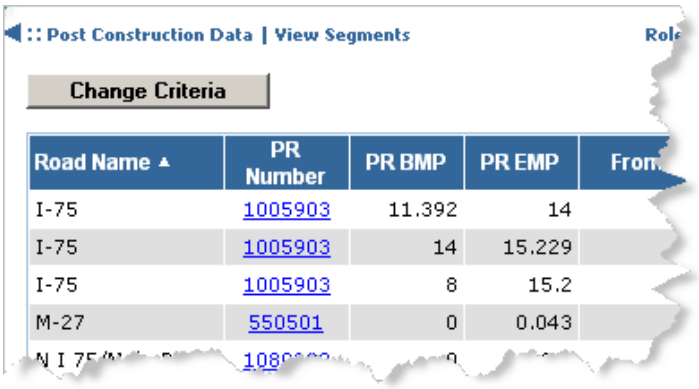
Internal Links

Within PHD there are quick links to job records and layer details. These are especially helpful when modifying records. An underline identifies them as a link.

Clicking the underlined Job Id will open its job information:



Clicking the PR Number will open the record to view segment details:



2.2.7 - PDF an Excel Formats

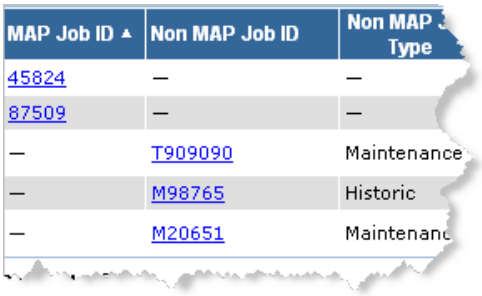
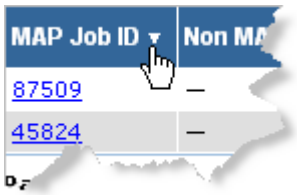
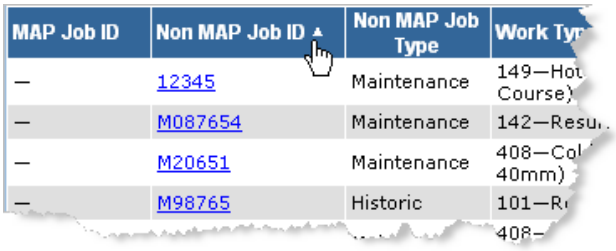
Print or Save

When Reports are generated, the output will be an Adobe PDF or Excel worksheet. The report opens in a separate window. Either format can be saved or printed.

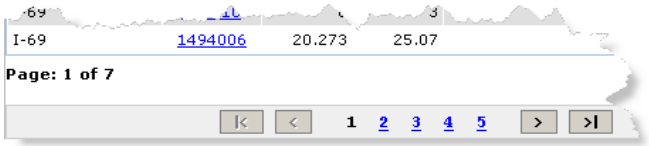
2.3 - List Features

Sort List

Lists can be sorted by column header. A triangle symbol in the column header displays the current sort header criterion. The ▲ symbol designates ascending order. The ▼ symbol designates descending order.

Step#	Steps to Sort a List
1	The current sort header criterion and sort order is designated by the ▲ symbol, as shown below: 
2	Click the column header a second time to change the sort to a descending order: 
3	Click a column header to sort the list by different criteria. 

All lists are limited to display five rows of data on a page. Use the pagination bar to move from page to page. Five pages are displayed as links at one time.



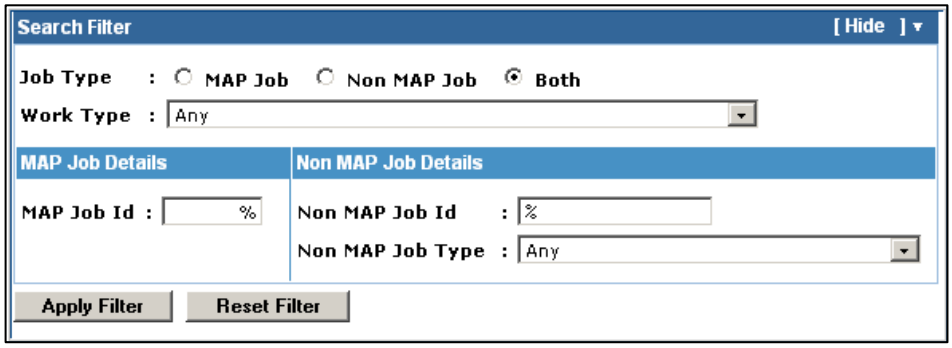
Use page forward › or page back to access more pages or ›| to move to last available page.

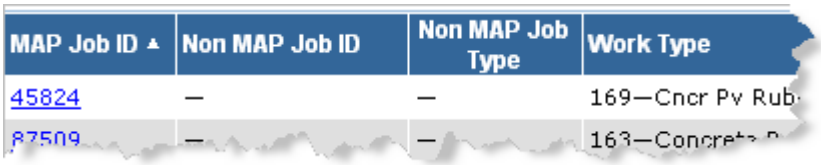
2.4 - Search Filter Lists

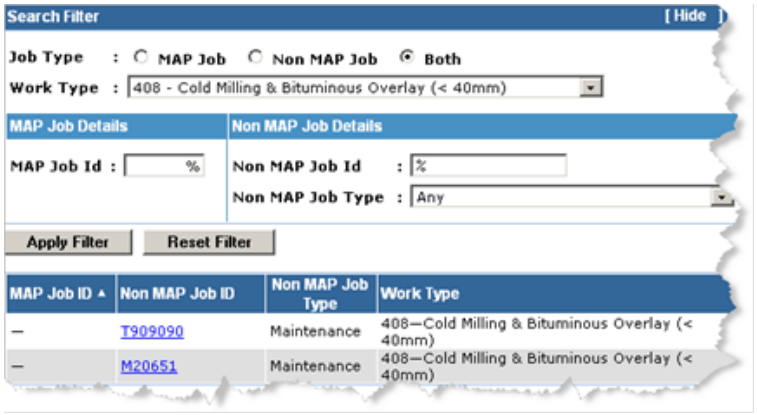
Features

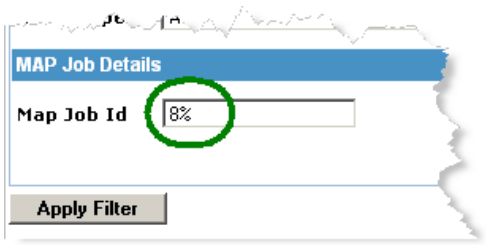
Lists can be filtered to show specific details. There can be one type of filter or a mixture of filters for use in any list.

This section outlines filter standards using the search filter in the Modify submenu as an example:



Step#	Basic Search Filter
1	Select Job Type. 
2	Click **Apply Filter** Results display in a list.  Note: The Modify submenu displays jobs in the results limited to those that the user has authorized access to. Authorized access is based on user role and assignment (Statewide, Region, or TSC location). For further details on Modify job access, see 3.1 - Job Types and Preparation.
3	Click the Job ID to view the record. To run another search without viewing the record, click **Reset Filter** to clear the fields. The user may also add more filters to search by Work Type, or Text Box ID.

Step#	Basic Search by Work Type
1	Select Work Type from the list; (Job Type default is "Both").
2	Click the **Apply Filter** button. Results will display. 
3	Options are to: • Click a Job ID to view its record • Add to the filter to limit or change result focus • Click the Reset Filter button to clear search criteria

Step#	Using the Text Box Filters
1	Type in a number, letter or a partial word in the text box. 
2	Click the Apply Filter button, or press the Enter key to display list results. Note: Other filters can be used if the Text Box Filter is used.

Using the Wildcard

The % symbol in filters serves as a "wildcard". For example:

8% finds any number (word or phrase) beginning with an "8".

%8 finds any number (word or phrase) containing "8".

8%3 finds any number (word or phrase) beginning with "8" and including a "3".

83% finds any number (word or phrase) beginning with "83".

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Return to Main Table of Contents

PHD *User Guide*

Chapter 3

Create and Modify Jobs in PHD

3.1 - Job Types and Preparation

Summary

Any pavement project or project with pavement work on MDOT trunkline should be entered into PHD. Data from "As Built" typical sections, mix designs, and testing orders is entered, creating an electronic database. This data includes road segment lane details, sections, layers, attributes/values, aggregates, aggregate sources, and work done on shoulders and/or curb and gutter.

Projects are defined and entered in PHD as MAP or Non MAP jobs (see 3.1.1 - Job Types for further details). **Job type effects PHD data entry only at job creation**. Otherwise, modifying data in PHD is the same for both MAP and Non MAP jobs.

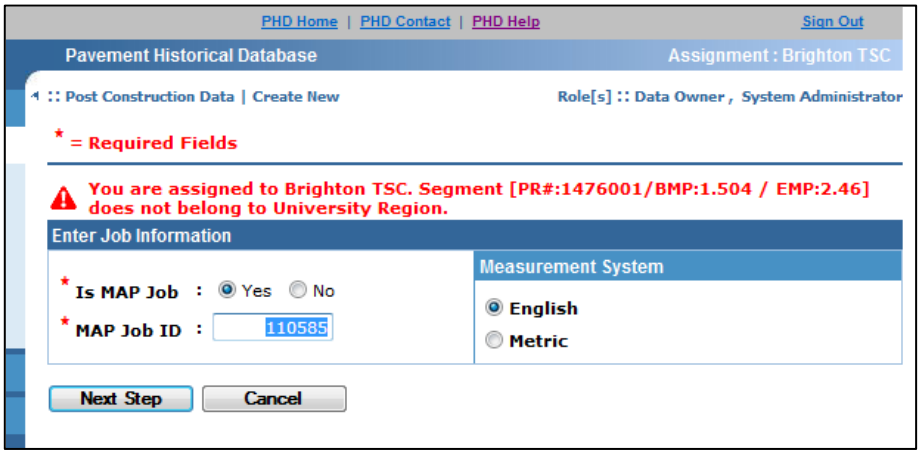
Jobs in PHD are organized as follows:

- Jobs are made of Segments.
- Segments are made of Lanes/Shoulder, Curb & Gutter.
- Lanes/Shoulder, Curb & Gutter are made of Layers.

Who Can Create and Modify Data in PHD?

Users with **Data Entry** and **Data Owner** roles can create and enter data in PHD. However, job and data entry is limited to the Assignment location designation. The Assignment location limits user access to their Region; (the exception to this is the "Statewide" location designation). The user Assignment location is shown in the "header" above user role.

For example, a user with granted access to the Brighton TSC can only enter jobs in the University Region. This is shown below:



3.1.1 - Job Types

MAP Jobs

MAP jobs are pavement projects that occur on MDOT trunkline and that have an MDOT Job Number with information stored in the MDOT Architecture Project (MAP) database. The MAP database is associated to MPINS, ACRS, etc. MAP jobs do not include maintenance-funded projects (those with a job number starting with an 'M').

At PHD job creation, MAP job Work Type Code and Fix Life are automatically generated from the MAP database. Additionally, preliminary segment information is generated from the MAP database (segment updates or additional segments may still be needed).

Non MAP Jobs

Non MAP jobs are pavement projects that occur on MDOT trunkline that do not have information stored in the MAP database, (not let through the MDOT bid letting system).

Non MAP jobs include work by:

- Maintenance-funded projects ("M" projects),
- Maintenance forces – MDOT or county,
- Transportation Work Authorizations (TWA),
- Warranty work,
- Historic (older let projects not in MAP), and
- Permit work (ie. widening/auxiliary lane for a commercial drive).

Since Non MAP jobs are not stored in the MAP database, additional information must be gathered and entered at job creation. Likewise, preliminary segment information is not automatically generated, so all segment data needs to be entered.

3.1.2 - Job Preparation

General Job Preparation

Before entering job data details in PHD, the following preparation is needed:

- Obtain copies of the "As Built" plans and/or proposals which include typical sections. If the "As Built" plans are not available use the "As Let" plans as a starting point. Ultimately, the "As Built" information must still be entered.
- Obtain copies of the JMF and mix designs of HMA and/or PCC pavement, as needed.
- Obtain copies of the testing orders for surface seals and crack treatments.
- Check for material changes made during construction.
- Review the typical sections and segments throughout the project.
    - Changes in the typical that are more than $1/10^{th}$ of a mile long may result in the creation of sub segments. With this in mind, it would be helpful to calculate the beginning and ending milepoints of each sub segment *before* beginning data entry. This may require conversion from stationing to PR milepoints.
    - Use PR Finder as a resource. PR Finder is an MDOT online mapping program that helps to identify the PR (Physical Reference) number and milepoints for all roads in the state of Michigan. This website is open to the public. It can be accessed with the following url: http://www.mcgi.state.mi.us/prfinder/
- Check if this project qualifies as a "Special Project Type". Typically the TSC and Region Offices know which projects are *CPM Emerging Technology* or *Pavement Demonstration* projects. The annual Call for Projects submittal may also contain this information.
- Check if the project is a CPM project. If the project has a Work Type Code 400 to 499, it may be entered as a **Simplified CPM** project (see Chapter 4 - Simplified CPM Format for PHD Jobs for further details). This format requires less data entry, thus requires less time. This format is selected at job creation and can be utilized for either MAP jobs or Non MAP jobs. Do not use the Simplified CPM format if the project includes any HMA paving.

MAP Job Preparation

A tool that can be used to organize a plan to enter MAP job data in PHD is the **MAP Reconciliation Report**. This report identifies MAP jobs which have not yet been entered into PHD. Use the report as a checklist for jobs to work on. Refer to Chapter 8 - Reports for more details.

Non MAP Job Preparation

It is not uncommon for Non MAP projects plans or proposals to be unavailable. In these cases, contact personnel who have direct knowledge of the work done and gather project related documentation (copies of the permits for example). Enter as much accurate information as is available.

Non MAP Job Preparation

(Continued)

In addition to any available project documentation, to create a Non MAP job in PHD you will need:

- The appropriate Job ID,
- The Work Type Code,
- The Non MAP Job Type,
- The Open to Traffic Date, and
- The Fix Life.

The appropriate Job ID is assigned by the user when the Non MAP job is created. The following table defines the types of projects and Job ID naming convention guidelines:

Project Type	Definition	Naming Convention
Maintenance	Maintenance funded work let through MDOT or another agency.	Use the job number including the letter "M" that precedes it.
TWA	Transportation Work Authorization funded.	Use the TWA number. Your region financial analyst can tell you the number, or assign a number if needed.
Warranty	Work performed under the terms of a project warranty.	Use the prefix "W" followed by the original 5 or 6 digit job number.
Direct Forces Work	Work performed by MDOT employees or contract county forces.	Create a direct forces work reference number for PHD use only. Use the following conventions: **DYYYYCNrouteBMP** 1. The prefix "D" followed by four digits representing the year. 2. The two digit county number. 3. The route. Use an alpha numeric with a hyphen as separator; for example, "US-31" or "US-31BR". 4. The beginning milepoint. (Including the decimal point) ⚠ There is a twenty character limit.
Historic	Projects let and constructed by MDOT prior to the implementation of MAP and therefore without MAP job numbers.	Use either the project number from the title sheet of the historic plans or the records used for the data entry.
Permit	Work constructed by others under permit; i.e., widenings for commercial driveways or utilities work.	Use the prefix "P" followed by the last 10 digits of the permit number. The TSC permit agent will be able to provide this information.

3.2 - Create Jobs in PHD

Getting Started

The Post Construction Data menu, located in the left navigation bar, offers easy access to enter and modify data in PHD. Users can also search segment information and export data from this menu.

Select the **Create** submenu of the **Post Construction Data** menu to begin creating PHD jobs.

Job Type Distinction

MAP job and Non MAP job data entry differs when creating a job in PHD. See 3.2.1 - Create MAP Jobs for MAP jobs, and see 3.2.2 - Create Non MAP Jobs for Non Map jobs.

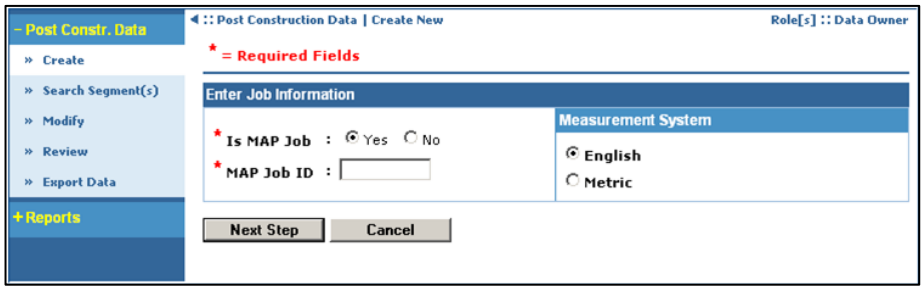
CPM project data entry can be reduced by using the **Simplified CPM** format. To create and edit Simplified CPM projects for either MAP jobs or Non MAP jobs, see Chapter 4 - Simplified CPM Format for PHD Jobs. In this format, users will enter segment layer information only and not enter individual lanes (or their details). This format does not require segment changes based on lane changes. Do not use the Simplified CPM format if the project includes any HMA paving.

- *At job creation, the **Simplified CPM** prompt can only be selected **once** and it cannot be undone. After the job is created, it will remain in the selected format.*

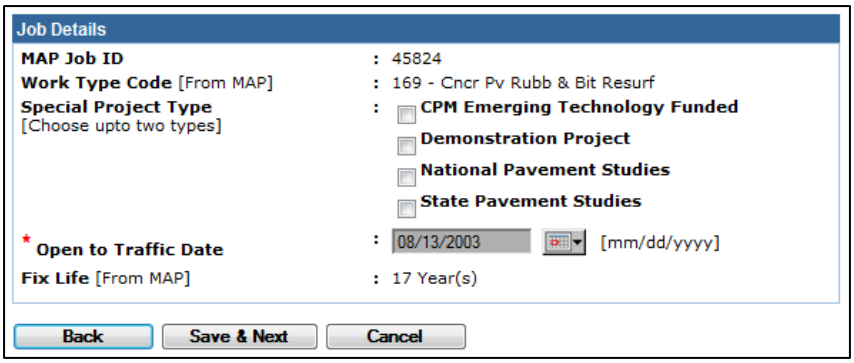
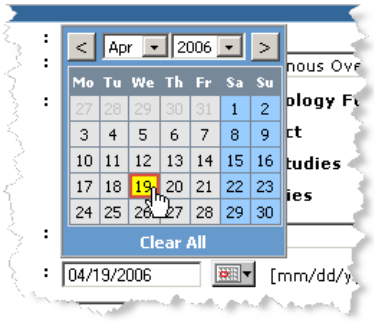
3.2.1 - Create MAP Jobs

Enter Job Information

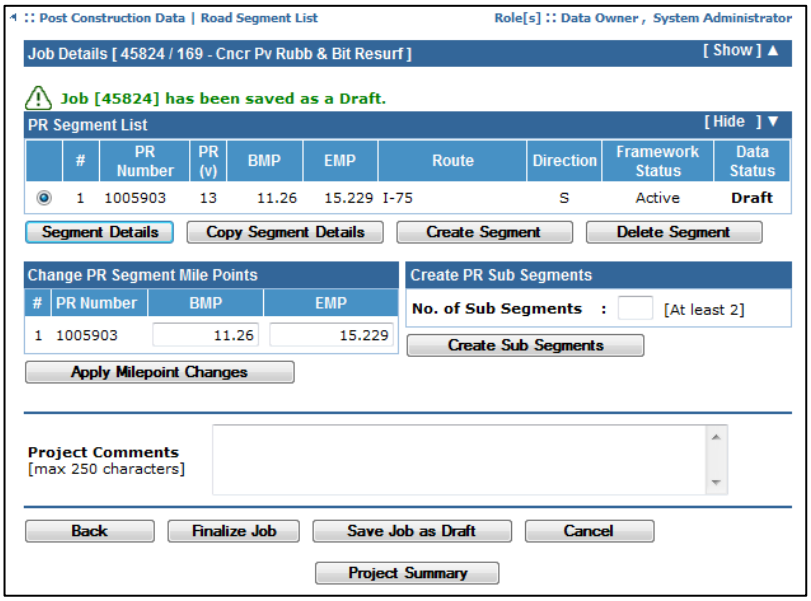
The first step to enter MAP Job information in PHD is to **Create** post construction data.

Step#	Steps to Create MAP Jobs
1	Click **Create** from the **Post Construction Data** menu (in the left navigation bar). • The Create New page displays. • 'Yes' is the default for the question of whether it is a MAP Job. 

Continued >

Step#	Steps to Create MAP Jobs
2	Enter the **MAP Job ID**, omitting the phase identifier suffix. For example, omit the letter "A" in MAP Job 48524A. Enter this job in PHD as MAP Job ID 48524.
3	**English** is the default for Measurement System. Clicking Metric would change the data entry settings for this job. The Measurement System shall match the job units. Although PHD displays data as either English or Metric, and PHD accepts data entered either in English or Metric units, the **requirement** is to enter data units that match those in the plans and project information.
4	Click **Next Step**. • The **Job Details** screen opens. It displays job details from the MAP and TMS systems with options to check up to two **Special Project Types**, if applicable.  **CPM Emerging Technology Funded** and **Demonstration Project** choices *do not* require additional information; **National** and **State Pavement Studies** *do* require a study number. If Work Type Code is 400 to 499, the **Simplified CPM** format query is shown. See 4.2 - Create Jobs with Simplified CPM Option to create Simplified CPM jobs.
5	Enter the **Open to Traffic Date**. Use (mm/dd/yyyy) format, or select a date using the calendar.  

Continued >

Step#	Steps to Create MAP Jobs
6	Click **Save and Next** to save as a Draft and continue. • The **Road Segment List** screen opens with the following: o A green "saved as Draft" message appears at the top of the page verifying the data entered is now stored as a Draft in PHD. o The **Road Segment List** screen displays a list of all road segments that are identified from the MAP system. o The page shows several panes where segment details can be viewed and updated. Panes include **Job Details**, **PR Segment List**, **Change PR Segment Mile Points**, **Create PR Sub Segments**, and **Project Comments**. 

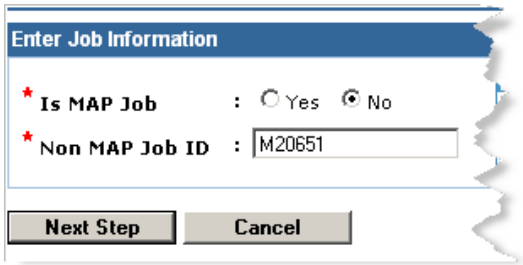
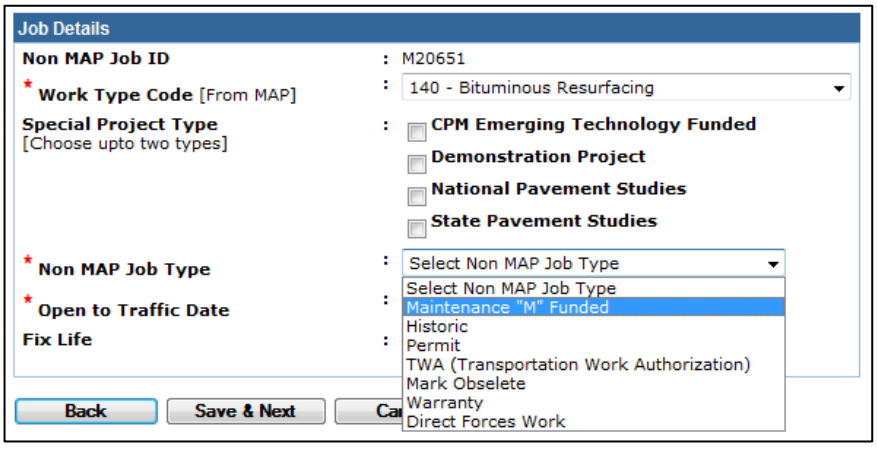
3.2.2 - Create Non MAP Jobs

Enter Job Information

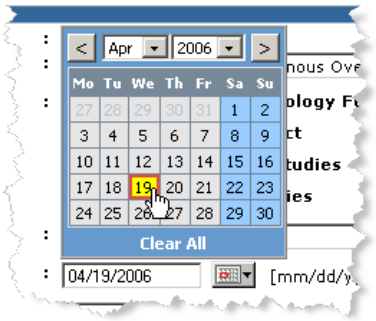
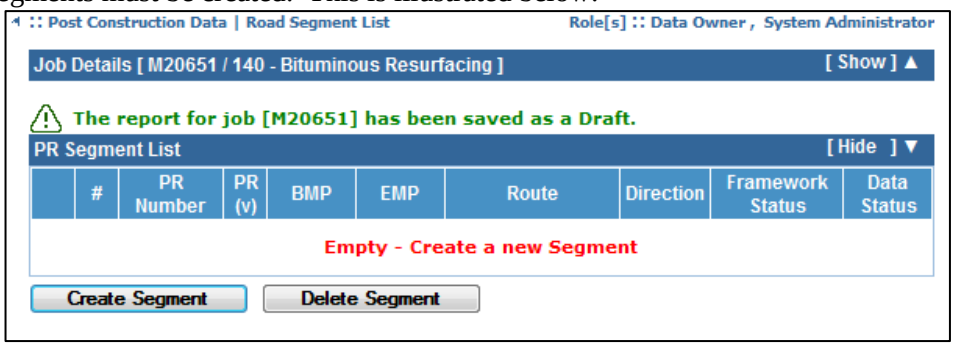
The first step to enter Non MAP Job information in PHD is to **Create** post construction data.

Step#	Steps to Create Non MAP Jobs
1	Click **Create** from the **Post Construction Data** menu (in the left navigation bar). • The **Create New** screen displays. • Notice 'Yes' is the default for whether it is a MAP Job. Click **'No'**.

Continued >

Step#	Steps to Create Non MAP Jobs
2	Enter the **Non MAP Job ID**. See 3.1.2 - Job Preparation: Non MAP Job Preparation for Naming Convention guidelines. 
3	**English** is the default for Measurement System. Clicking Metric would change the data entry settings for this job. The Measurement System shall match the job units. Although PHD displays data as either English or Metric, and PHD accepts data entered either in English or Metric units, the **requirement** is to enter data units that match those in the plans and project information.
4	Click **Next Step**. • The **Job Details** screen opens. **Work Type Codes**, **Non MAP Job Type** list, and options to check **Special Project Type** appear on this screen.
5	Select the **Work Type Code** which most closely matches the work performed as part of this Non MAP job. If Work Type Code is 400 to 499, the **Simplified CPM** format query is shown. See 4.2 - Create Jobs with Simplified CPM Option to create Simplified CPM jobs.
6	Select up to two **Special Project Types**, if applicable. **CPM Emerging Technology Funded** and **Demonstration Project** choices *do not* require additional information; **National** and **State Pavement Studies** *do* require a study number.
7	Select the **Non MAP Job Type** from the list. 

Continued >

Step#	Steps to Create Non MAP Jobs
8	Enter the **Open to Traffic Date**. Use (mm/dd/yyyy) format, or select a date using the calendar.  
9	Enter the project **Fix Life**. The Fix Life Guidelines document indicates appropriate Fix Life per project type. The most current version of this document is located in ProjectWise, under the Statewide Groups, Highway Call For Projects folder. Consult the appropriate Pavement Management Engineer for further guidance or confirmation.
10	Click **Save and Next** to save as a Draft and continue. • The **Road Segment List** screen opens with the following: o A green "saved as Draft" message appears at the top of the page verifying the data entered is now stored as a Draft in PHD. o The page shows several panes where segment details can be viewed and updated. Panes include **Job Details**, **PR Segment List**, **Change PR Segment Mile Points**, **Create PR Sub Segments**, and **Project Comments**. Non MAP Jobs segment data is not pulled into PHD as it is with MAP Jobs; segments must be created. This is illustrated below: 

3.3 - Edit Jobs in PHD

Summary

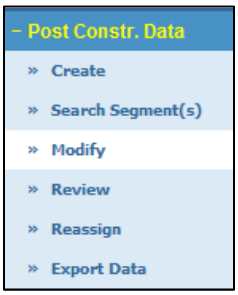
Once a job has been created, it can be later edited/modified (unless it was Finalized).

Begin editing a job:

- Immediately after the PHD job is created from the **Create** submenu, or
- By selecting a previously created job from the **Modify** submenu.

Job editing begins in the **Road Segment List** screen.

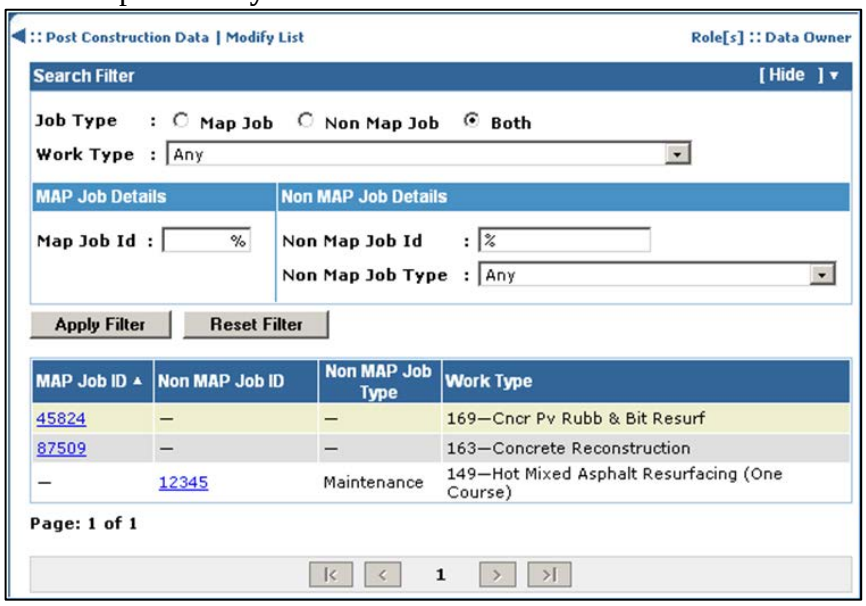
Modify Submenu



Select the **Modify** submenu from the **Post Construction Data** menu to locate previously created jobs for edit.

The **Modify List** screen will display. This screen is populated with jobs that are assigned to the current user.

An example **Modify List** screen is shown below:



- Click the Job ID to open details for the specific job.
- Use the Search Filter to narrow results in the displayed list.
- Use the pagination bar to move forward or back in the list.
- See 2.3 - List Features for further search specific information.

3.4 - Create Segments and Edit Milepoints

Create Segments

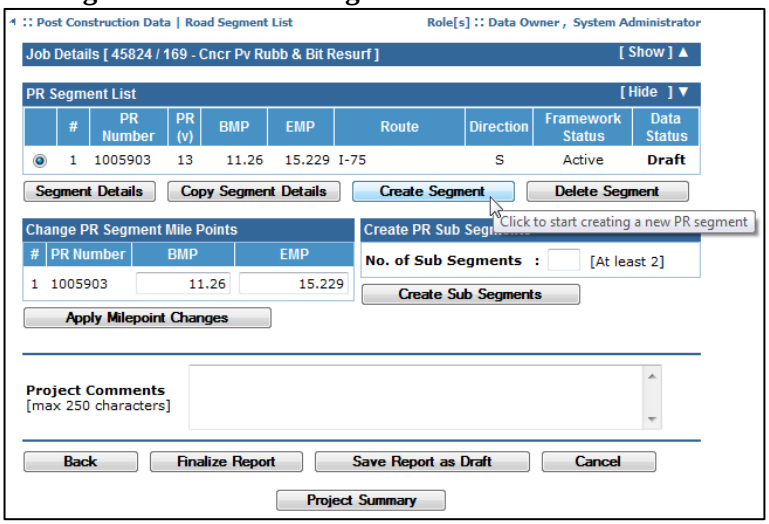
Segments are created and edited in the **Road Segment List** screen. Segments are defined by Physical Reference (PR) numbers and their associated milepoints.

There is no minimum segment length. New segments or sub segments should be created whenever the lane or shoulder attributes making up the section change longer than 1/10th of a mile. This includes changes in layers, layer details, number of lanes, lane details, different years of construction, shoulders/curb & gutter details, or PR number. Anything less than 1/10th of a mile can be entered with the adjacent segment at the user's discretion. The exception is segments involving additional lanes less than 1/10th of a mile (turn lanes for example). These should be entered as new segments or sub segments and not included in adjacent segments.

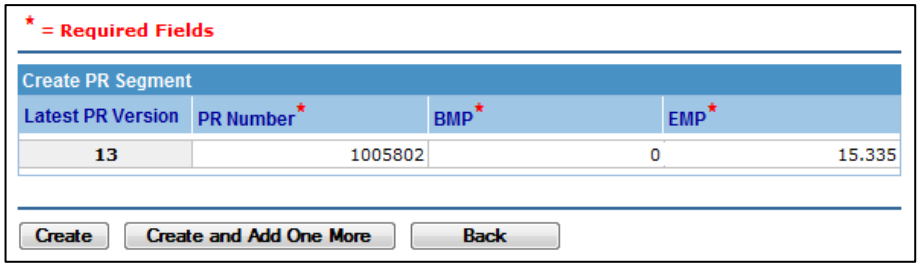
Note: Beginning and ending milepoints are based on "As Built" information. For MAP jobs where segment information is generated by the MAP system, verify that segmentation matches "As Built" information. Segments may require editing or creation.

Use PR Finder as a resource. PR Finder is a MDOT online mapping program that helps to identify the PR number and milepoints for all roads in the state of Michigan.

Use the following steps to create new segments in PHD:

Step#	Steps to Create PR Segments
1	Click **Create Segment** in the **Road Segment List** screen.  • The **Create PR Segment** screen will display.

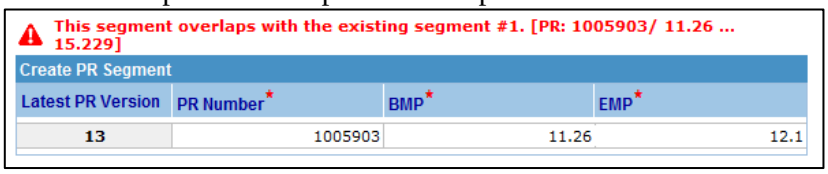
Continued >

Step#	Steps to Create PR Segments
2	In the **Create PR Segment** screen, enter **PR Number**, **BMP**, and **EMP** (beginning and ending milepoints). 
3a	Click **Create**. • The **Road Segment List** screen appears with the following confirmation message: Successfully created the segment.
3b	Optionally, to add more than one segment at a time, click **Create and Add One More**. • The **Create PR Segment** screen will reappear with the following confirmation message: Successfully created the segment. Repeat *Steps 2 and 3* to create additional segments.

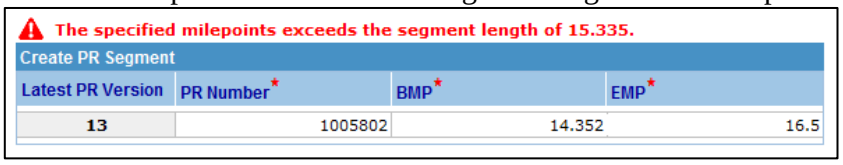
Errors may occur when creating PR segments. If error messages occur, recheck data and calculations and reenter the information.

Error messages will occur:

- If the milepoints overlap. See example below:



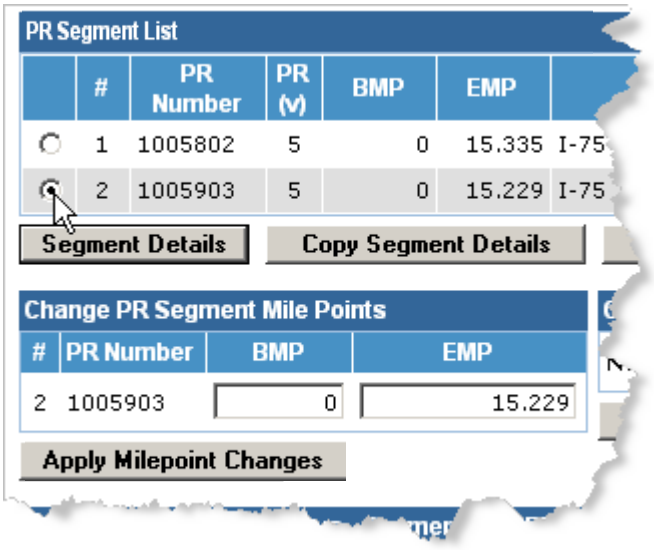
- If the milepoints exceed the PR segment length. See example below:



Change PR Segment Mile Points

The PR milepoints are displayed in the **Road Segment List** screen. If beginning and ending milepoints displayed in the PHD system are different from the "As Built" information or are incorrect, then milepoints should be changed to match. These milepoint changes can be made utilizing **Apply Milepoint Changes**.

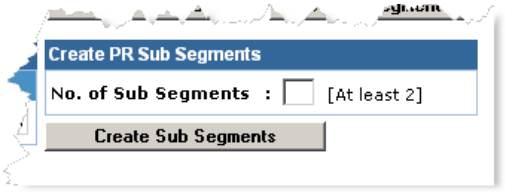
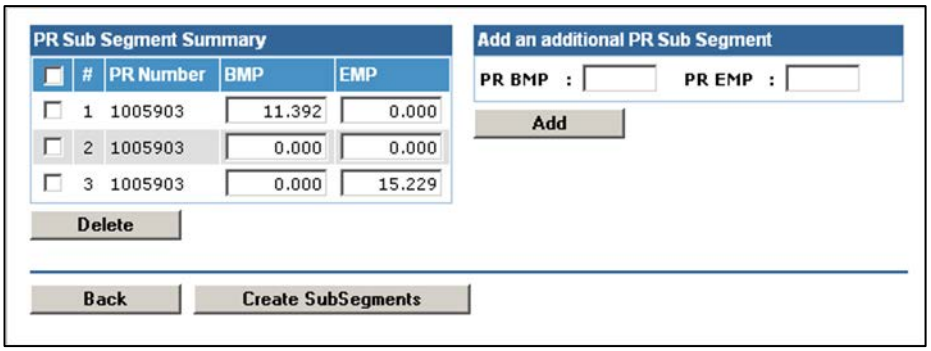
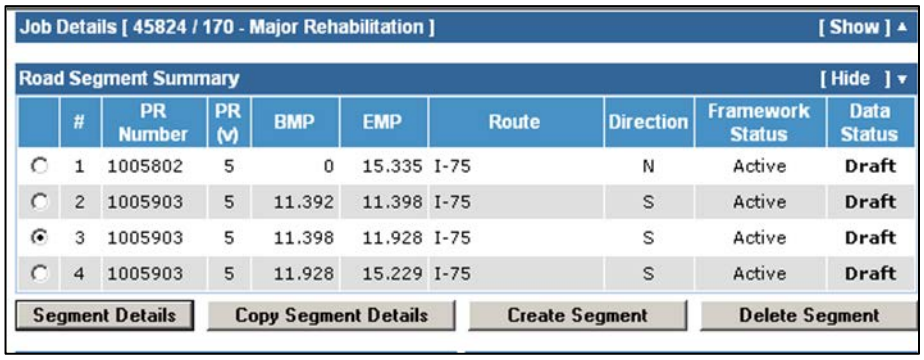
Use the following steps to update the beginning or ending milepoint for a road segment:

Step#	Steps to Change PR Milepoints
1	Select a segment from the **PR Segment List** pane. Milepoints display in the **Change PR Segment Mile Points** pane. See example below: 
2	Enter **BMP** and **EMP** modifications in the **Change PR Segment Mile Points** pane.
3	Click **Apply Milepoint Changes** to update the road segment.

Create PR Sub Segments

Sub segments should be created whenever the geometry of the lane, shoulder, or attributes of the layers making up the section change.

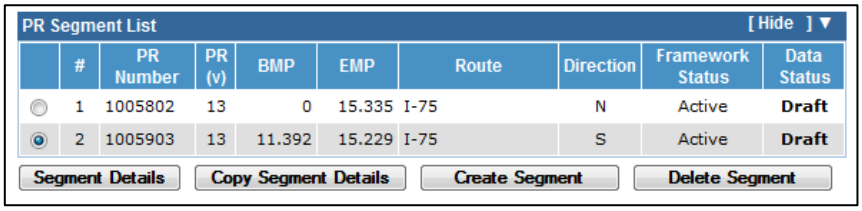
Use the following steps to create sub segments:

Step#	Steps to Create PR Sub Segments
1	Select a segment from the **PR Segment List** pane.
2	Enter the **number of sub segments**, (at least 2). 
3	Click **Create Sub Segments**.
4	Manually enter the **BMP** (beginning milepoint) and **EMP** (ending milepoint) for each sub segment. The number of sub segments was specified in *Step 2*. The example below shows 3 specified sub segments:  More sub segments can be added by entering PR information in the **Add an additional PR Sub Segment** pane and clicking **Add**. Sub segments can be deleted by selecting the appropriate check box next to the sub segment for removal in the **PR Sub Segment Summary** pane and clicking **Delete**.
5	Click **Create Sub Segments** after all milepoints are entered to add data in PHD and return to the **Road Segment List** screen. 

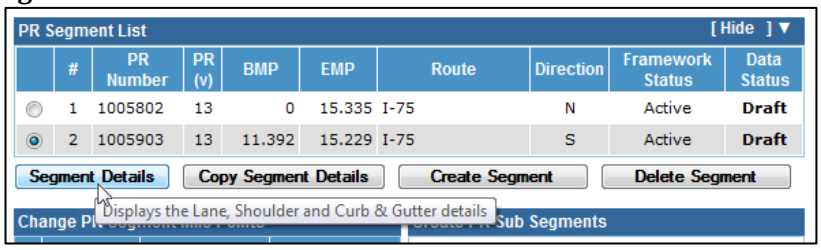
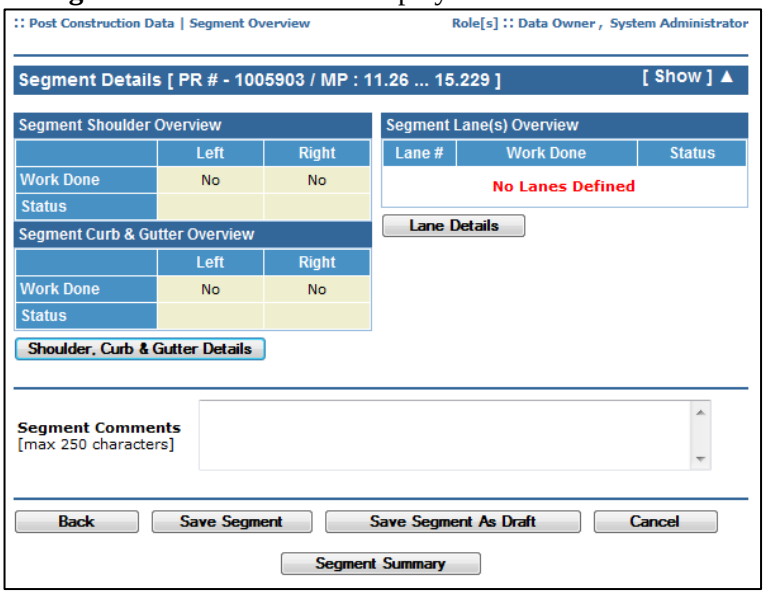
3.5 - Edit Segment Details

Getting Started

Segment information is displayed in the **PR Segment List** pane. 'Data Status' remains Draft until **Segment Details** have been entered and completed.



Use the following steps to show the **Segment Overview** screen to begin adding and/or editing **Segment Details**:

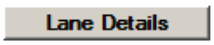
Step#	Segment Details – Segment Overview Screen
1	Select a segment from the **PR Segment List** pane.
2	Click **Segment Details**.  • The **Segment Overview** screen displays: 

Continued >

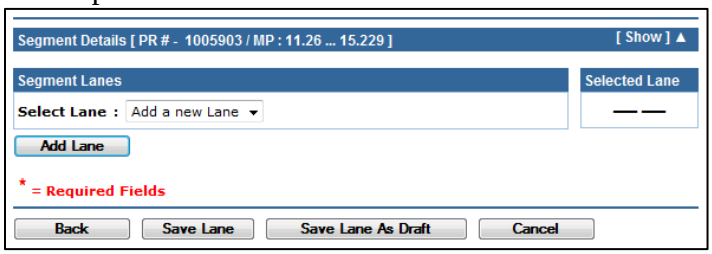
Step#	Segment Details – Segment Overview Screen
3	Menus for creating and/or editing lanes or shoulder, curb and gutter details are accessible from the **Segment Overview** screen: • To define lane segments, click **Lane Details** (see 3.5.1 - Lane Details for further information). • To define shoulders or curb and gutter, click **Shoulder, Curb & Gutter Details** (see 3.5.2 - Shoulder Curb & Gutter for further information). • To enter additional information that cannot be entered in either the **Lane Details** or **Shoulder, Curb & Gutter Details** areas, use the **Segment Comments** box (see 3.8 - Comment Boxes for further information).

3.5.1 - Lane Details

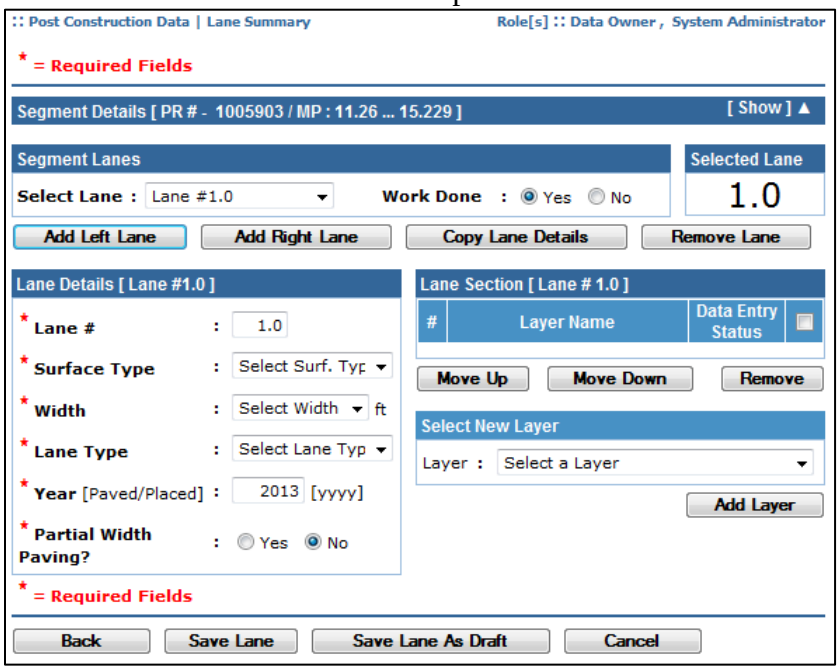
Getting Started

In the **Segment Overview** screen, click **Lane Details**. 

- The **Lane Summary** screen will display.
  - To get started, click the **Add Lane** button, below the **Segment Lanes** pane:



    - This will create and open **Lane 1** for edit:



Getting Started

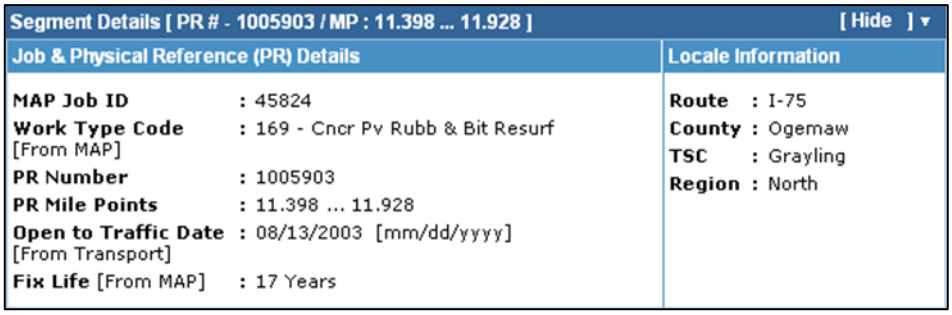
(Continued)

For the selected lane, the **Lane Summary** screen displays the following panes:

- Segment Details (Job & PR details)
- Segment Lanes
  - Includes options to Add Left Lane, Add Right Lanes, Copy Lane Details, or Remove Lane
- Selected Lane
- Lane Details
- Lane Sections (layers, layer status, and the option to add layers)

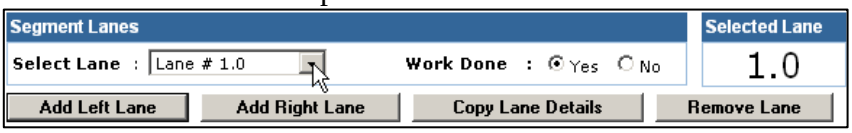
Segment Details Pane

To review Job and PR details in the **Lane Summary** screen, click on [Show] in the **Segment Details** pane. Click [Hide] when done.

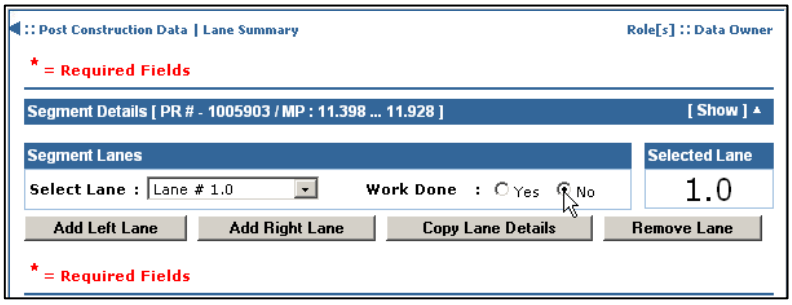


Segment Lanes Pane & Selected Lane Pane

Select a lane from the list in the **Segment Lanes** pane to edit details for that particular lane. The lane selected from the **Segment Lanes** pane will appear in the **Selected Lane** pane.



Select the appropriate **Work Done** option for the selected lane. If a lane exists in the system, but no work has been done on the lane in this job, select **'No'**. The **Lane Details** and **Lane Section** panes will not display for this lane.



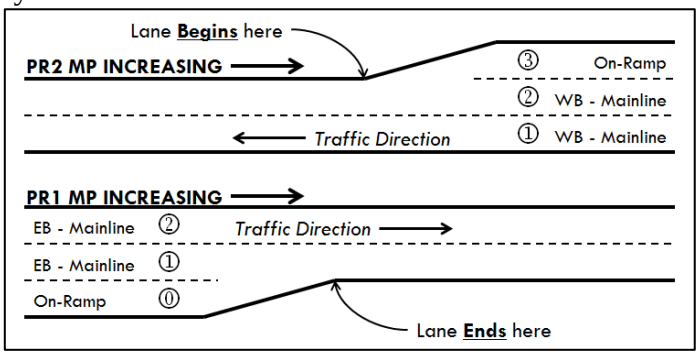
Add Left or Right Lane

To create and add an additional left or right lane, select the appropriate option below the **Segment Lanes** pane:

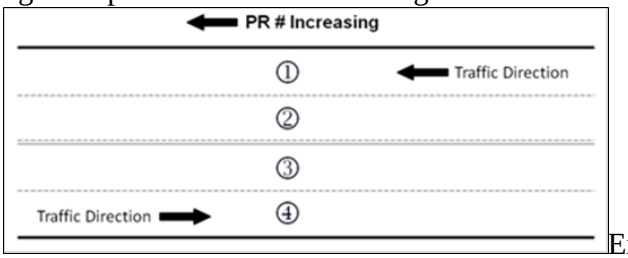
A lane begins at the start of the taper of an additional lane. Similarly, a lane ends at the end of the taper. Lanes are integers numbered from right to left, facing the increasing milepoint direction of the PR segment. Typically, divided roadways have a different PR number for each direction, so they are numbered separately. Lane numbers are assigned as follows:

- Lane 1 is the right-most travel lane of the PR segment.
- Increasing lane numbers 2, 3, and greater are lanes left of Lane 1.
  - Examples are passing lane, center turn lane, or an opposing traffic lane (if it is the same PR number).
- Decreasing lane numbers 0, -1, and less are temporary or new lanes right of Lane 1.
  - An example is a ramp lane to the right of Lane 1.

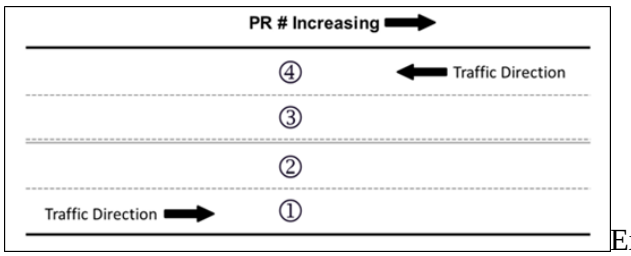
The following example shows lane numbering for two PR segments separated by a median:



The following examples show lane numbering for undivided PR segments:



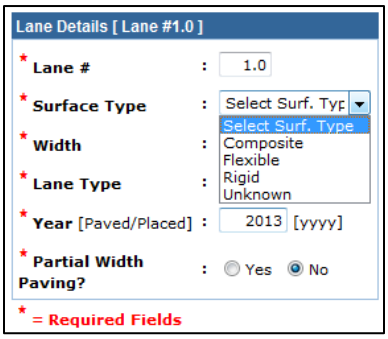
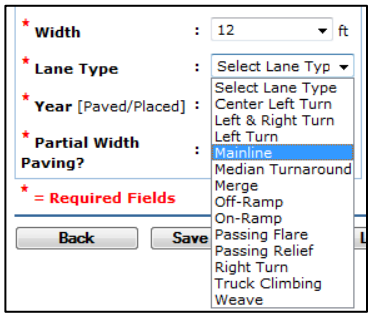
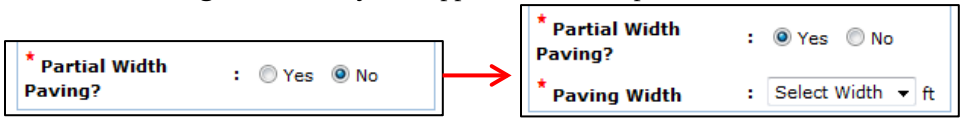
Ex 1



Ex 2

Lane Details Pane

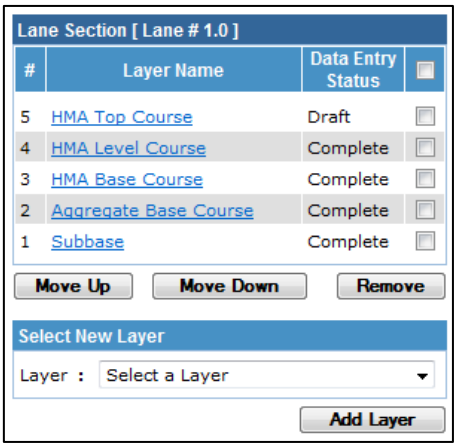
The **Lane Details** pane displays the details for the selected lane. This is where lane information can be added or edited. Follow the steps in the table to enter lane details:

Step#	Steps to Add Lane Details
1	In the **Lane Details** pane, select the **'Surface Type'** from the list. Note: All layers underneath the top surface should be considered. For example, if the placed pavement is HMA, but concrete is underneath, the 'Surface Type' is Composite, not Flexible. Users should refrain from selecting Unknown. 
2	Select the **'Width'** from the list. Note: This is the total width of the lane.
3	Select the **'Lane Type'** from the list. Note: This is the function or use of that lane. 
4	Enter (or change) the **'Year [Paved/Placed]'**. Note: This is the year that the pavement was placed or work was done for that segment, for that job. The segment should be split if the lane was paved in multiple years (see 3.4 - Create Segments and Edit Milepoints for further details).
5	If this lane was partially paved for this job, select 'Yes' for **'Partial Width Paving?'**. • The **'Paving Width'** entry will appear. Select the partial width from the list.  Note: The **'Width'** entry will indicate the full paving width if 'No' is selected.

All fields with an asterisk * symbol are required and need to be entered before a lane can be saved.

Lane Section Pane

The **Lane Section** pane displays the layers and layer status (Draft or Complete) for the selected lane. **Layers** can be **created**, **reordered**, or **removed** in this pane. **Layer details can be added or edited** after a Layer is created or selected from the pane.

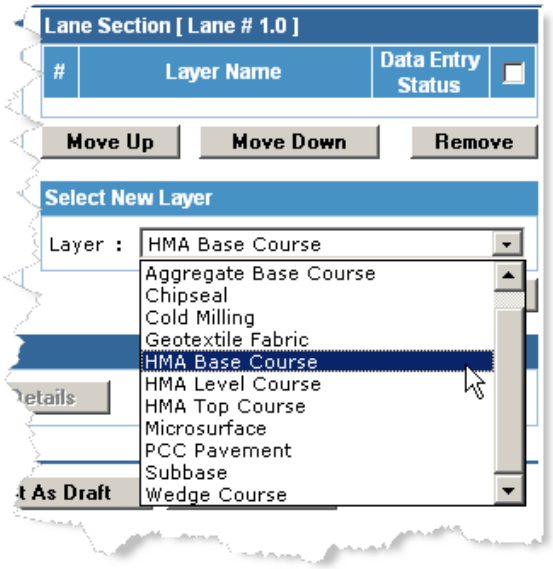


Create Layers

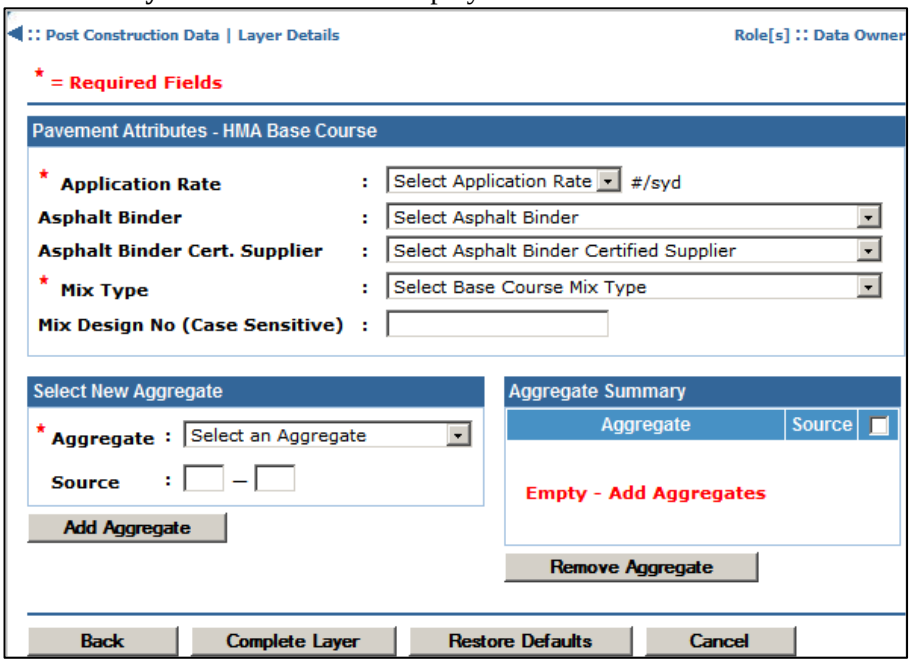
Layers required for entry include new materials and milling/repair work to existing layers.

Only the layers paved/placed in the **current job** should be entered. Existing layers or layers paved/placed in **other jobs** should not be entered with the **current job**. Job plans or Job Mix Formulas (JMF) can be helpful resources for layer data entry.

Follow the steps in the table to create layers:

Step#	Steps to Create Layers
1	Under the **Lane Section** pane, select a layer from the **Select New Layer** list. 

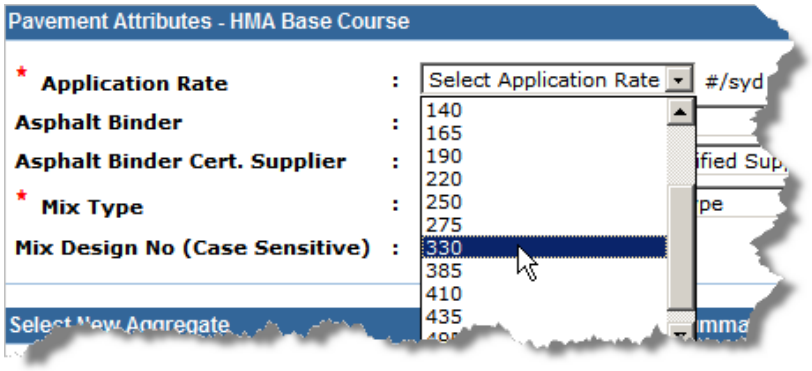
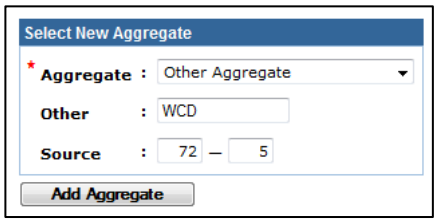
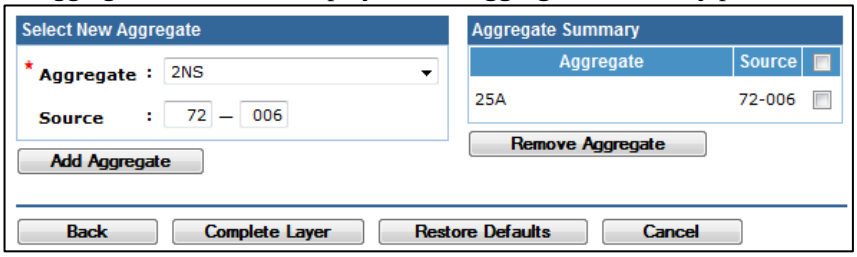
Continued >

Step#	Steps to Create Layers
2	Click **Add Layer**. Add Layer • The layer is **added/created**. • The **Layer Details** screen is displayed: 

Add/Edit Layer Details

Specific layer attributes and/or aggregates are added and edited in the **Layer Details** screen for that layer. The screen for this layer is opened after the layer is created, or selected from the **Lane Section** pane (a previously created layer).

The following table outlines panes and data entry in the **Layer Details** screen:

Step#	Edit Layer Details
1	In the **Pavement Attributes** pane, select or enter each pavement attribute from the associated list.  Users should select or enter as many pavement attributes as possible, even if only some of the attributes are required.
2	If the **Layer Details** screen displays the **Select New Aggregate** or **Aggregate Summary** panes, move to *Step 3*. If the **Layer Details** screen does not display the **Select New Aggregate** or **Aggregate Summary** panes, skip to *Step 4*.
3a	In the **Select New Aggregate** pane, select the aggregate used in or for the layer from the drop-down list. Select 'Other Aggregate' to enter an aggregate not shown in the drop-down list (non-standard aggregate). Enter the aggregate name in the new text box, 'Other'. 
3b	In the **Select New Aggregate** pane, enter the associated pit source number. The list option 'Other Aggregate' requires a source (pit) number, while the option 'Unknown Aggregate' does not require a source (pit) number.
3c	Click **Add Aggregate**. • Aggregate information displays in the **Aggregate Summary** pane. 
3d	If more aggregates were used in the layer, repeat *Step 3* until all aggregates have been added.

Continued >

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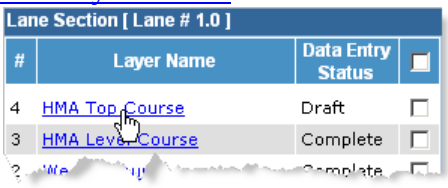
Step#	Edit Layer Details
4	Click **Complete Layer** to submit layer details as complete. • The **Lane Summary** screen is displayed. • In the **Lane Section** pane, the layer Data Entry Status is **Complete**.

Additional **Layer Details** screen notes:

- Instead of clicking **Complete Layer**, users can click **Save Layer as Draft** to keep the layer in Draft status and return to the **Lane Summary** screen.
  - The layer Data Entry Status is Draft until the layer is saved by clicking **Complete Layer** in the **Layer Details** screen.
- Layers can be later edited if in Complete or Draft status.
- Click **Restore Defaults** to reset the **Layer Details** screen and clear attribute and aggregate fields.
- To delete an aggregate from the layer **Aggregate Summary** pane:
  - Select the aggregate (click the check box ☑ next to the Source column).
  - Click **Remove Aggregate**.

Layer Data Entry Status

The Data Entry Status displays in the **Lane Section** pane of the **Lane Summary** screen. A lane can only be saved after all of its layers are in Complete status. To complete a layer in Draft status, click the layer to return to the **Layer Details** screen and follow the steps outlined in 3.5.1 - Lane Details: Add/Edit Layer Details.

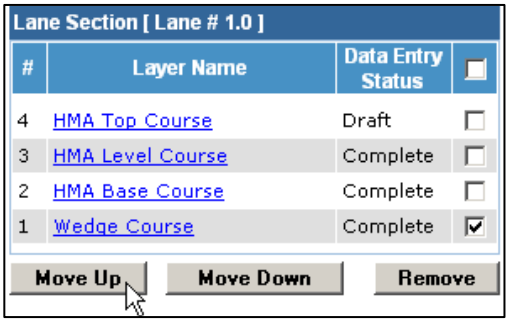


Reorder Layers

Layers shown in the **Lane Section** pane should be displayed in order of construction. Thus, the first layer of construction is on the bottom and the final layer of construction is on top. If a Layer needs to be moved in order, use the following steps:

1. Select layer **check box**.
2. Click **Move Up** or **Move Down**.

Note: Multiple layers can be moved at the same time.



Remove Layers

A layer can be removed from the **Lane Section** pane. If a Layer needs to be removed, use the following steps:

1. Select layer **check box**. 
2. Click **Remove**.

Note: Multiple layers can be removed at the same time.

Save Lane

In the **Lane Summary** screen, click **Save Lane** to save the selected lane (current lane) as **Complete**.

- The **Lane Summary** screen displays the following confirmation message:

Lane will not save if any required fields are missing, at least one layer has not been added, or any layers are in Draft status.
To keep a lane in **Draft** status click **Save Lane as Draft**.
Lanes can continue to be edited in **Draft** or **Complete** status.

Copy Lane Details

Users can copy lane details to other lanes. This can reduce data entry and save users time if lanes are identical or have similar details.

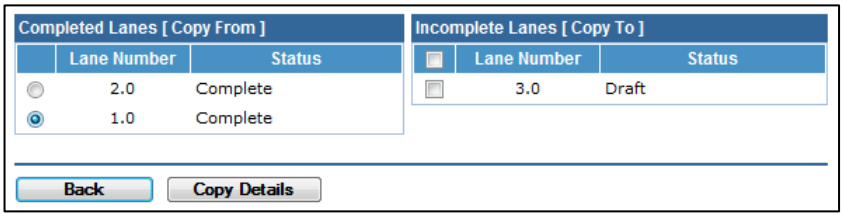
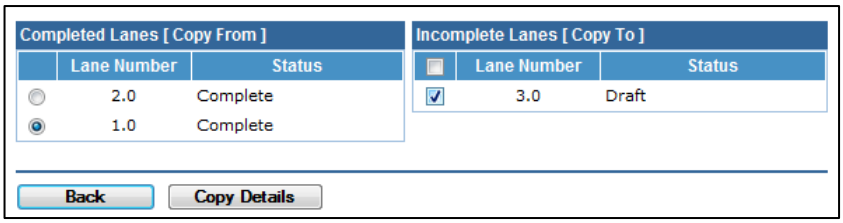
Users can copy lane details from a **Completed** lane to an existing lane still in **Draft** status.

All lane information of the Draft lane(s) being copied to will be overwritten when using the copy function.

Follow the steps in the table to copy lane details:

Step#	Steps to Copy Lane Details
1	If lanes to copy to already exist (additional lanes in Draft status), skip to *Step 2*. If lanes to copy to do not exist, click **Add Left Lane** or **Add Right Lane**. 
2	Click the **Copy Lane Details** button below the **Segment Lanes** pane. 

Continued >

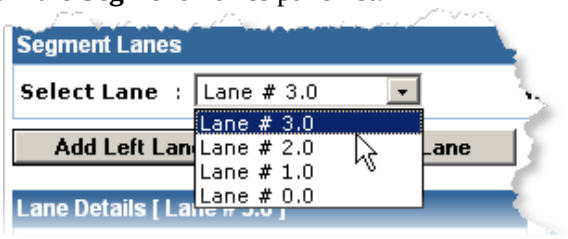
Step#	Steps to Copy Lane Details
3	In the **Completed Lanes [Copy From]** pane, select a Completed lane to copy from.  Note: Only one lane at a time can be copied from.
4	In the **Incomplete Lanes [Copy To]** pane, select the Draft (or incomplete) lane to copy to.  Note: Multiple lanes can be selected to copy to. All segment details of the copied to Draft segment(s) will be overwritten.
5	Click **Copy Details**. • **Lane Details** and **Lane Section** layers are copied. • The **Lane Summary** screen is displayed. • Lane status is changed to **Complete**. Users should click **Save Lane** after making changes and the lane details are complete.

Remove Lane

Lanes can be removed, but only the right-most and left-most lane can be removed at a time.

For example, if there are four lanes: 1, 2, 3, and 4, the way to remove Lane 3 is to remove Lane 4 first and then remove Lane 3. Alternatively, the user could remove Lanes 1 and 2 and then remove Lane 3. However, if work was done on Lane 4, but not Lane 3, the user should not use the remove option. Instead, the user should select **'No'** for 'Work Done' in the **Segment Lanes** pane of Lane 3.

Follow the steps in the table to remove a lane:

Step#	Steps to Remove a Lane
1	Select the lane from the **Segment Lanes** pane list. 
2	Click the **Remove Lane** button below the Segment Lanes pane. Remove Lane • The lane is **removed**. • The **Lane Summary** screen is displayed. Users should click **Save Lane** after making changes and the lane details are complete.

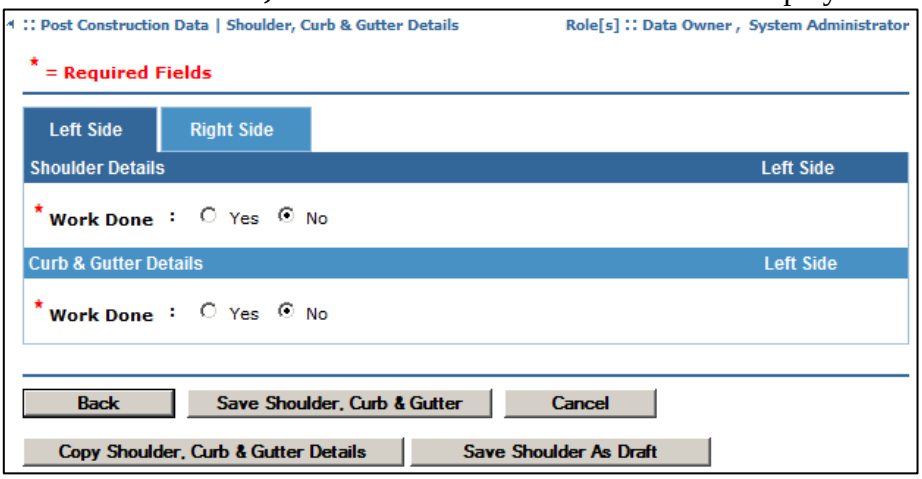
3.5.2 - Shoulder, Curb & Gutter Details

Getting Started

In the **Segment Overview** screen, click **Shoulder, Curb & Gutter Details**.

Shoulder, Curb & Gutter Details

- The **Shoulder, Curb & Gutter Details** screen will display:



The **Shoulder, Curb & Gutter** Details screen displays the following information:

- Left Side and Right Side tabs
- Shoulder Details pane
  - Includes Shoulder Sections pane
- Curb & Gutter Details pane

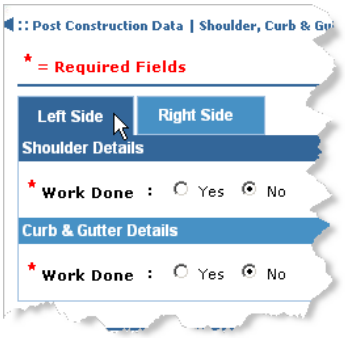
Left & Right Side Tabs

The left side and right side of the shoulder, curb & gutter is determined facing the increasing milepoint direction of the PR segment.

The Left Side and Right Side tabs are selectable toggles that allow the user to enter information for one side at a time. The tab that is darker in color is the selected side for data entry.

Shoulder Details Pane

The **Shoulder Details** pane displays the shoulder details for the selected side. This is where shoulder information can be added or edited. Follow the steps in the table to enter shoulder details and shoulder layers:

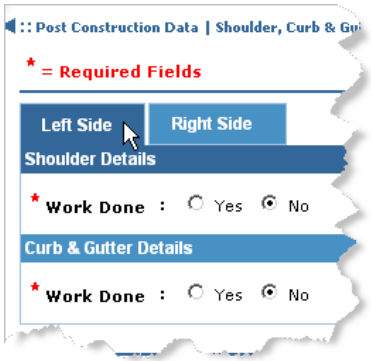
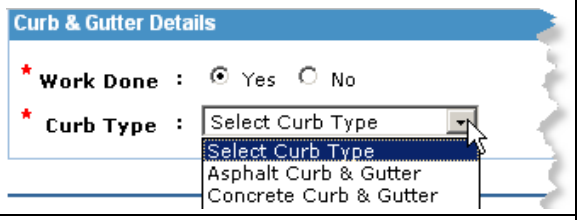
Step#	Edit Shoulder Details and Shoulder Layers
1	Choose the **Left Side** or **Right Side** tab, as appropriate to enter details. 
2	In the **Shoulder Details** pane, Click **'Yes'** for **Work Done** to show details.  Note: **'No'** is the default and should be selected if no work was done.
3	Select the appropriate options for each shoulder detail. Each field is required: 

Continued >

Step#	Edit Shoulder Details and Shoulder Layers
4	Next to the **Shoulder Section** pane, select a layer from the **Select New Layer** list.
5	Click **Add Layer**. • The Layer is **added/created**. • The **Layer Details** screen is displayed.
6	Follow the steps outlined in 3.5.1 - Lane Details: Add/Edit Layer Details to add and edit layer details in the **Layer Details** screen.
7	If more layers are needed, repeat *Steps 5 and 6*.
8	If work was done on the other side: • Repeat *Steps 1 through 7* for that side, or • Copy shoulder details to the other side (see 3.5.2 - Shoulder, Curb & Gutter: Copy Shoulder, Curb & Gutter Details for further details).

Curb & Gutter Details Pane

The **Curb & Gutter Details** pane displays the curb & gutter details for the selected side. This is where curb & gutter information can be added or edited. Follow the steps in the table to enter curb & gutter details:

Step#	Edit Curb & Gutter Details
1	Choose the **Left Side** or **Right Side** tab, as appropriate to enter details. 
2	In the **Curb & Gutter Details** pane, Click **'Yes'** for **Work Done** to show details.  Note: **'No'** is the default and should be selected if no work was done.
3	Select **Curb Type**. 
4	If work was done on the other side, repeat *Steps 1 through 3* or copy curb & gutter details to the other side (see 3.5.2 - Shoulder, Curb & Gutter: Copy Shoulder, Curb & Gutter Details for further details).

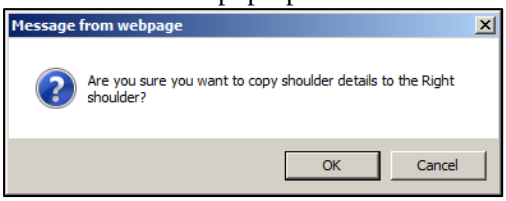
Copy Shoulder, Curb & Gutter Details

Users can copy shoulder, curb & gutter details of one side to the other. This can reduce data entry and save users time if sides are identical or have similar details.

Users can copy details from one side to the other side.

All existing shoulder, curb & gutter information of the copied to side will be overwritten when using the copy function.

Follow the steps in the table to copy shoulder, curb & gutter details:

Step#	Copy Shoulder, Curb & Gutter
1	Choose the **Left Side** or **Right Side** tab to select the Completed side to copy from.
2	Click Copy Shoulder, Curb & Gutter Details. Copy Shoulder, Curb & Gutter Details
3	Click **'OK'** in the pop-up window to confirm the copy.  All existing shoulder details and curb & gutter details of the copied to side will be overwritten.

Save Shoulder, Curb & Gutter

In the **Shoulder, Curb & Gutter Details** screen, click **Save Shoulder, Curb & Gutter** to save the selected tab (current side) as Complete.

Save Shoulder, Curb & Gutter

- The **Shoulder, Curb & Gutter Details** screen will display with the following confirmation message:

  Successfully saved the Shoulder, Curb & Gutter information for the segment.

The other side is not saved when selecting **Save**. Select the other side tab and select **Save** to save.

The shoulder, curb & gutter will not save if any required fields are missing, at least one layer has not been added (if work done on shoulder), or any layers are in Draft status.

To keep a shoulder side in Draft status click **Save Shoulder as Draft**.

Shoulders can continue to be edited in **Draft** or **Complete** status.

3.5.3 - Saving Segment Details

Save Segment or Save Segment as Draft

In the **Segment Overview** screen, click **Save Segment** to save entered data and save the segment as **Complete**.

- The **Road Segment List** screen will display with a confirmation message.
- The segment **Data Status** displays **Complete**.

Alternatively, in the **Segment Overview** screen, click **Save Segment as Draft** to save entered data and save the segment as a **Draft**.

- The **Road Segment List** screen will display with a confirmation message.
- The segment **Data Status** displays **Draft**.

Segments can continue to be edited in **Draft** or **Complete** status.

If lane or shoulder, curb & gutter information is in **Draft** status, the **Save Segment as Draft** function can be used to save this information for future edit and completion.

3.6 - Copy Segment Details

Summary

Completed segment details can be copied to new or existing segments. This can reduce data entry and save users time if segments are identical or have similar details.

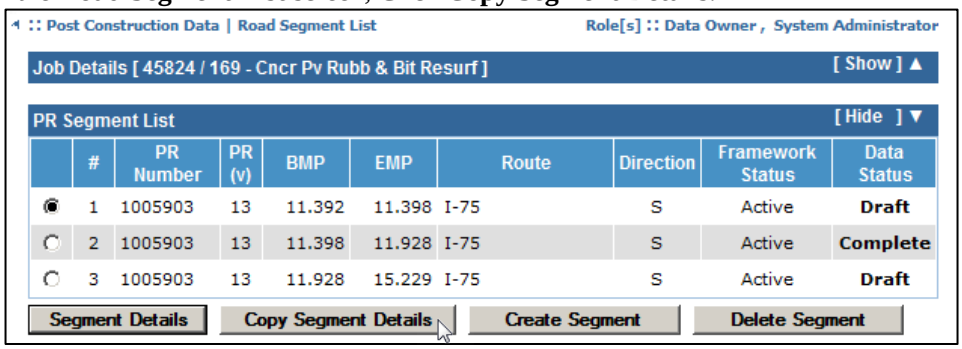
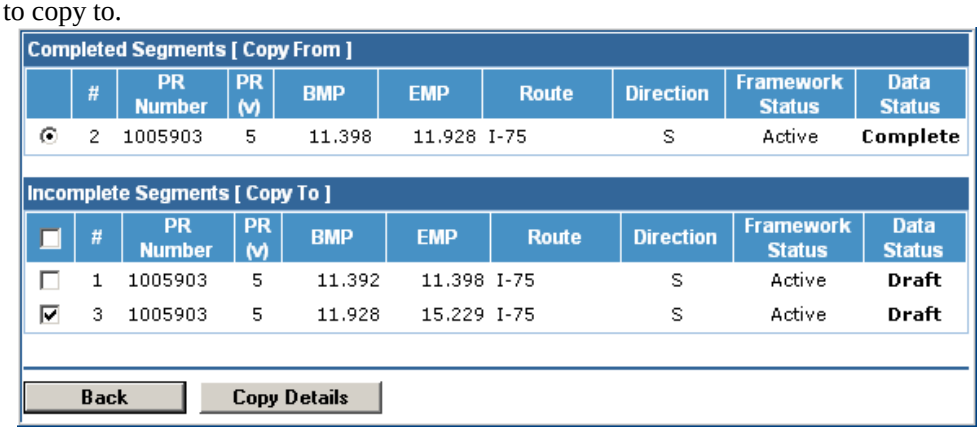
Users can copy segment details from a **Completed** segment to an existing segment still in **Draft** status.

To Complete a segment:

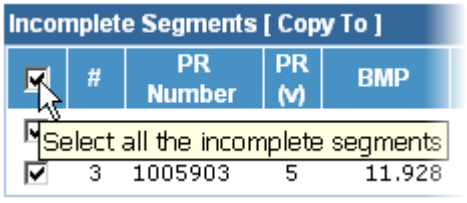
- Enter required **Segment Details**,
- The segment is **saved** (see 3.5 - Edit Segment Details).

All segment details of the copied to Draft segment(s) will be overwritten when using the copy function.

Follow the steps in the table to copy segment details:

Step#	Steps to Copy a Segment
1	In the **Road Segment List** screen, Click **Copy Segment Details**.  • The **Copy Segment Details** screen will display.
2	In the **Completed Segments [Copy From]** pane, select a Completed segment to copy from. Note: Only one segment at a time can be copied from.
3	In the **Incomplete Segments [Copy To]** pane, select the Draft (or incomplete) segment to copy to.  Note: Multiple segments can be copied to. All segment details of the copied to Draft segment(s) will be overwritten.
4	Click **Copy Details**. • **Segment Details** are copied. • The **Road Segment List** screen is displayed. • The segment **Data Status** is **Complete**.

To quickly copy segment details to all incomplete segments, use the select all check box.

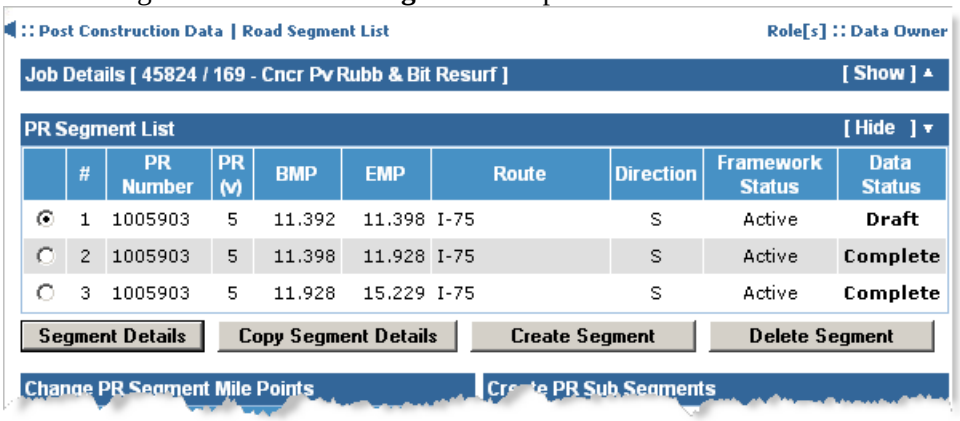
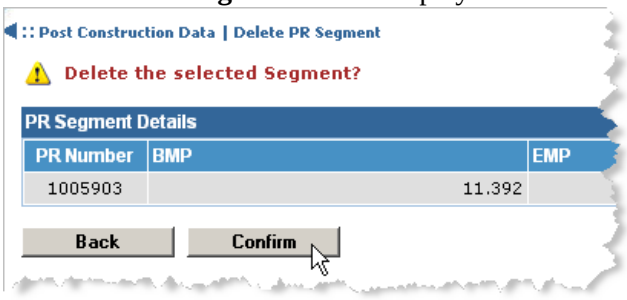


3.7 - Delete Road Segment

Summary

In the **Road Segment List** screen, segments can be deleted and removed from the **PR Segment List** pane.

To delete a segment and its details, use the following steps:

Step#	Steps to Delete a Segment
1	Select the segment from the **PR Segment List** pane. 
2	Click **Delete Segment**. 
3	The **Delete PR Segment** screen displays to confirm deletion:  Click **Confirm** to finalize deletion. • The **Road Segment List** screen displays. • A confirmation message displays above the **PR Segment List** pane.

3.8 - Comment Boxes

Summary

Comment boxes are used to enter specific details or additional information. Users can enter up to 250 characters of text.

Comments that are job or project related can be entered in the **Project Comments** box. It is located in the **Road Segment List** screen.

Comments that are segment related (lanes and/or shoulder, curb & gutter) can be entered in the **Segment Comments** box. It is located in the **Segment Overview** screen.

3.9 - Project & Segment Summary

Summary

To view summaries of project or segment level information, users can click **Project Summary** or **Segment Summary**. By clicking a **Summary** button, a pop-up summary window will display. The summary is in PDF format and can be saved or printed.

The **Project Summary** button is located in the **Road Segment** List screen, and the **Segment Summary** button is located in the **Segment Overview** screen.

3.10 - Saving and Finalizing Jobs

Job Status

After a PHD job is created it can exist in one of the following three stages in PHD:

- The first stage is **Draft**:
  - Jobs are in this stage at the time it is created in PHD until the time it is complete and has been submitted for Review or is Finalized.
  - The job is found in the **Modify** submenu.
    - Only accessed by the user who is assigned to the job.
- The second stage is **Review**:
  - Jobs are in this stage after a Data Entry user selects the **Finalize Job** button in the **Road Segment List** Screen.
    - This means that data entry is completed, but is pending approval from a Data Owner user.
  - The job is found in the **Review** submenu.
    - Only accessed by Data Owner users.
- The last stage is **Final**:
  - Jobs are in this stage after the Data Owner user selects the **Finalize Job** button in the **Road Segment List** screen.
    - This means that the job is submitted as a Finalized job in the PHD database.
  - The job is located in the PHD database and its associated segments can be searched for in the **Search Segment(s)** submenu or **Reports** menu.
    - Cannot be accessed for edit.

Jobs and their associated segments can be created or edited, until the job is Finalized by a Data Owner.

Save as Draft

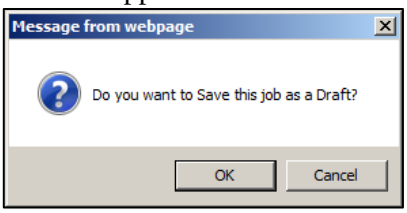
Updating segments can be an ongoing process due to time constraints and the amount of information needed for entry. Data can be entered in one session or multiple sessions. To enter data in multiple sessions, users can save PHD jobs as Drafts before completion and submittal.

Save as Draft

(Continued)

To save a PHD job as a Draft, click **Save Job As Draft**, in the **Road Segment List** screen.

- A pop-up window will appear to ask for confirmation, **Click Ok**.



  - The job is **saved as a Draft** in PHD.
  - The user **Modify List** screen is displayed with a confirmation message.

To update this job in the future use the **Modify** submenu in the left navigation bar and select the appropriate job (see 3.3 - Edit Jobs in PHD: Modify Submenu).

If user is a **Data Owner**, saving a job in the **Review** area as a draft, will move it to the user's **Modify** area.

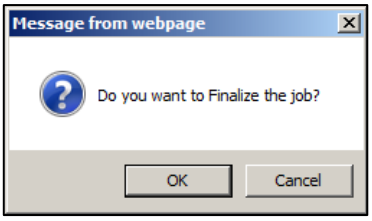
Submit a Job for Review

The following applies to **Data Entry** users:

Once data entry is complete for **Data Entry** users, the job needs to be submitted for review. Before submitting, verify that all segments are complete and ready for review.

To send a PHD job to the **Review** area:

- Find and open the job in the **Modify** area
- In the job's **Road Segment List** screen, click **Finalize Job**.
  - A pop-up window will appear to ask for confirmation, **Click Ok**.



    - The job is **saved** and **sent to the Review area**.
    - The user **Modify List** screen is displayed with a confirmation message.

The job cannot be seen or edited by the **Data Entry** user unless the job is **saved as a draft by a Data Owner** and **reassigned** to the Data Entry user.

Notifications are not sent when a **Data Entry** user submits a job for review. **Data Entry** users must have active communication with **Data Owner** users and should notify **Data Owner** users when a job is submitted.

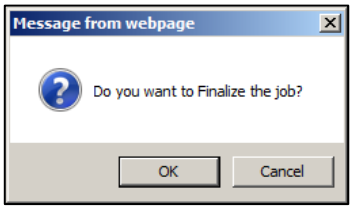
Finalize a Job

The following applies to **Data Owner** users:

Once data entry is complete and confirmed by **Data Entry** users, the job needs to be finalized. Before submitting, verify all segments are complete, the data will not require any further changes, and that the data is ready for reports and searches.

To **finalize** a PHD job:

- Find and open the job in the **Review** area
- In the **Road Segment List** screen click **Finalize Job**.
  - A pop-up window will appear to ask for confirmation, **Click Ok**.



  - The job is **finalized** and **sent to the PHD database**.
  - The user **Review List** screen is displayed with a confirmation message.
  - Job information can be found in the:
    - **Search Segment(s)** submenu
    - **Reports** menu (including submenus)

If the job requires corrections or changes, the **Data Owner** can make the changes or assign the job to a **Data Entry** user to make the changes. To assign the job to a **Data Entry** user, **save the job as a draft** and **reassign the job** to the associated **Data Entry** user in the **Reassign** area.

If the job is Finalized by a Data Owner, the job can only be released from the PHD database by contacting a **PHD Administrator**.

If finalizing a job (for review or sending it to the PHD database) and any segments are still in Draft status (incomplete), the error message will appear as follows:

Incomplete segments are present. Complete the segments before finalizing.

Review the job, complete segment data entry, and finalize the job again.

PHD *User Guide*

Chapter 4

Simplified CPM Format for PHD Jobs

4.1 - Simplified CPM Information

Summary

Refer to Chapter 3 - Create and Modify Jobs in PHD for job preparation, job types, standard job creation, and data entry information. Chapter 4 is supplemental to Chapter 3.

Jobs that have Work Type Codes from 400 to 499 are Capital Preventative Maintenance (CPM) type jobs. Data entry for these types of jobs can be relatively time consuming due to the CPM variety of fixes and various locations To streamline and reduce the data entry needs for CPM jobs, users can select the **Simplified CPM** format option at job creation (for MAP or Non MAP jobs).

The **Simplified CPM** format:

- Requires segment layer information only.
- Does not allow entry of lanes and their details.
- Does not allow entry of Shoulder details.
- Does not require segment changes based on lane or shoulder changes.

When not to use the **Simplified CPM** format:

- For projects where lanes have different paved or placed work.
- For projects involving HMA paving.
    - When the Simplified format is used for data entry, the Material Quantity Report cannot calculate total HMA tonnage.

 At job creation, *the **Simplified CPM** prompt can only be selected **once** and it cannot be undone*. After the job is created, it will remain in the selected format.

Data Entry Differences

For jobs using the **Simplified CPM** format, the following screens look and function differently than jobs using the standard format:

- **Segment Overview**
  - 'Year [Paved/Placed]' data entry item added.
  - Segment Sections pane for layer entry added.
  - Lane Details button removed.
- **Shoulder, Curb & Gutter Details**
  - If Shoulder Work Done is 'Yes':
    - Shoulder Details removed.

For jobs using the Simplified CPM format, the following screen does not exist:

- **Lane Summary**
  - Lane details are not needed.

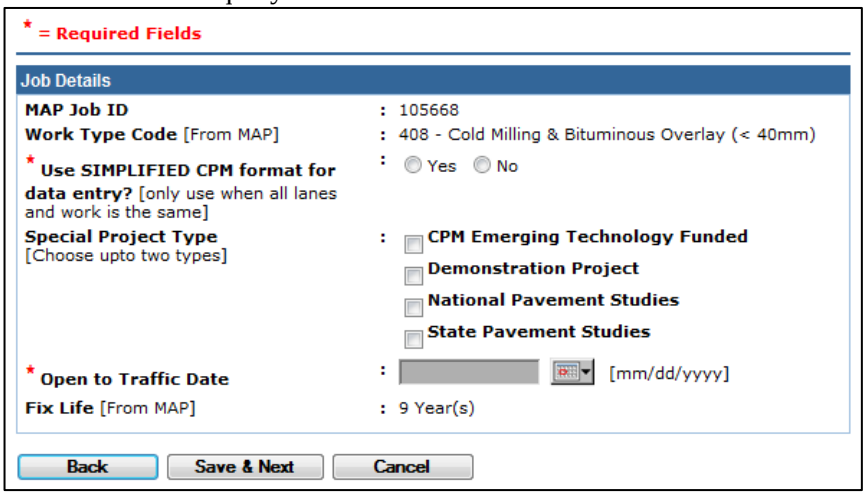
4.2 - Create Jobs with Simplified CPM Option

Enter Job Information

The first step to enter MAP Job information in PHD is to **Create** post construction data. Create a MAP or Non MAP job.

Step#	Steps to Create Jobs with CPM Work Type Code
1	 Click **Create** from the **Post Construction Data** menu (in the left navigation bar). • The Create New page displays.
2	Create a MAP or Non MAP job. See 3.2 - Create Jobs in PHD for further details.

Continued >

Step#	Steps to Create Jobs with CPM Work Type Code
3	Click **Next Step**. • The **Job Details** screen opens. o When the Work Type Code is 400 to 499, the **Simplified CPM** format query is shown. 
4	For the **Simplified CPM** format prompt: • Select 'Yes' to use the **Simplified CPM** format for data entry, or • Select 'No' to use the standard format for data entry. Proceed no further and refer to Chapter 3 - Create and Modify Jobs in PHD. *The **Simplified CPM** prompt can only be selected **once** and it cannot be undone*. After the job is created, it will remain in the selected format.
5	Complete data entry in the **Job Details** pane. See 3.2 - Create Jobs in PHD for further details.
6	Click **Save and Next** to save as a Draft and continue. • The **Road Segment List** screen opens. o This screen looks and functions exactly the same as a job using the standard format.

4.3 - Create, Edit Milepoints, Copy, & Delete Segments in Simplified CPM

Summary

Create, edit milepoints, copy, and delete segments functions are the same for **Simplified CPM** and standard format jobs.

Use the following sections in Chapter 3:

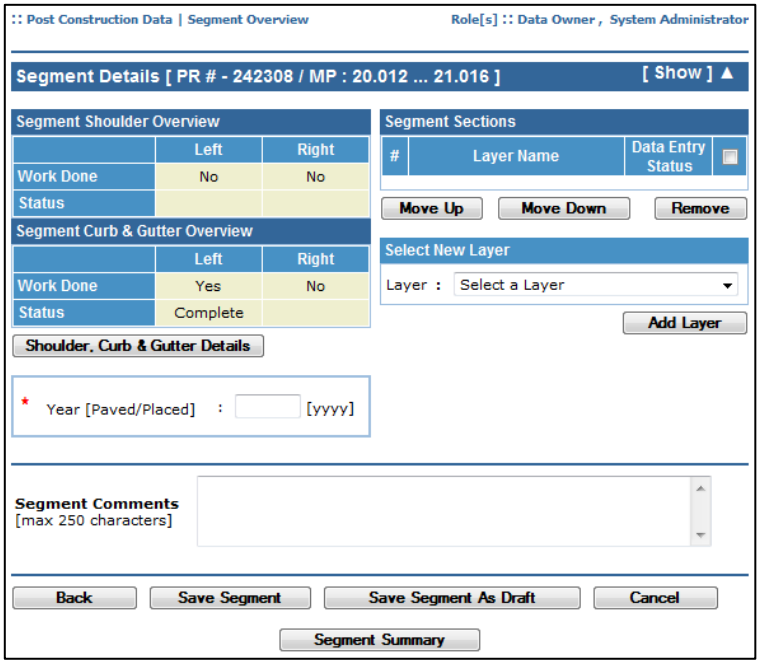
- To create segments and edit milepoints, see 3.4 - Create Segments and Edit Milepoints.
- To copy segments, see 3.6 - Copy Segment Details.
- To delete segments, see 3.7 - Delete Road Segment.

4.4 - Edit Segment Details in Simplified CPM Format

Getting Started

Similar to jobs using the standard format, begin editing segment details by accessing the associated **Segment Overview** screen, (see 3.5 - Edit Segment Details for further information).

Unlike the standard format, the **Simplified CPM Segment Overview** screen will display the **Segment Sections** pane, and have a location for entering the year layers were paved or placed. The **Lane Details** button is not needed, so it is removed from this screen.



Getting Started

(Continued)

In the **Simplified CPM Segment Overview** screen:

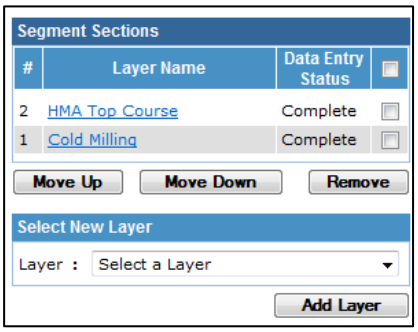
- Enter the year layers were paved or placed using the **Year [Paved/Placed]** box.
- Create and/or edit layers using the **Segment Sections** pane (see 4.4.1 - Segment Layers for further information).
- Create and/or edit shoulders or curb and gutter by clicking **Shoulder, Curb & Gutter Details** (see 4.4.2 - Shoulder, Curb & Gutter for further information).
- Enter additional segment information that cannot be entered in other areas using the **Segment Comments** box.

4.4.1 - Segment Layers

Segment Section Pane

In the **Segment Overview** screen, the **Segment Sections** pane displays the layers and layer status (Draft or Complete) for the selected segment.

Layers can be **created**, **reordered**, or **removed** in this pane. **Layer details can be added or edited** after a Layer is created or selected from the pane.



Create and Edit Layers

Create and edit layers functions are the same for **Simplified CPM** and standard format jobs.

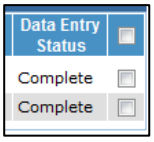
Use the following sections in Chapter 3:

- To create layers, see 3.5.1 - Lane Details: Create Layers.
- To edit layer details see 3.5.1 - Lane Details: Add/Edit Layer Details.

Layer Data Entry Status

The Data Entry Status displays in the **Segment Sections** pane of the **Segment Overview** screen.

The segment can be saved at any time by clicking *Save Segment as Draft*. Once all of its layers are in Complete status, the segment can be saved as Complete by clicking *Save Segment*.



Reorder or Remove Layers

Reorder and Remove layers functions are the same for **Simplified CPM** and standard format jobs.

Use the following sections in Chapter 3:

- To reorder layers, see 3.5.1 - Lane Details: Reorder Layers.
- To remove layers see 3.5.1 - Lane Details: Remove Layers.

4.4.2 - Shoulder, Curb & Gutter

Getting Started

In the **Segment Overview** screen, click **Shoulder, Curb & Gutter Details**.

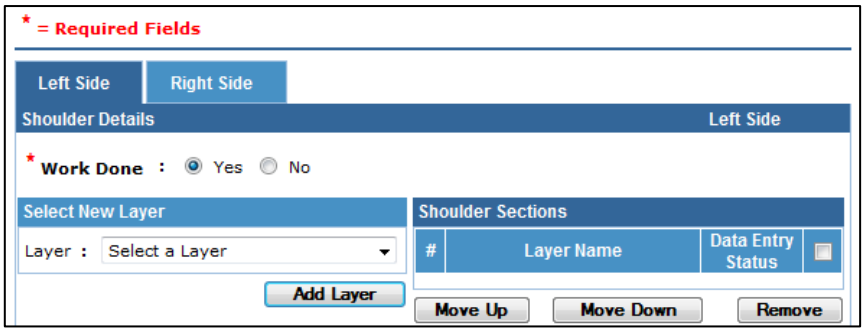
- The **Shoulder, Curb & Gutter Details** screen opens with the following information:
  - Left Side and Right Side tabs
  - Shoulder Details pane
    - Includes Shoulder Sections pane
  - Curb & Gutter Details pane

Left & Right Side Tabs

The Left Side and Right Side tabs are selectable toggles that allow the user to enter information for one side at a time. The tab that is darker in color is the selected side for data entry.

Shoulder Details Pane / Shoulder Sections Pane

The **Shoulder Details** pane displays the **Shoulder Sections** pane when 'Yes' is selected for **Work Done**. This is where shoulder layers can be added or edited. Shoulder details that are required for standard format jobs are not shown because these details are not needed for **Simplified CPM** format jobs. Only shoulder layers are needed for the **Simplified CPM** format.



Use the following sections in Chapter 3:

- To create layers, see 3.5.1 - Lane Details: Create Layers.
- To edit layer details see 3.5.1 - Lane Details: Add/Edit Layer Details.

Curb & Gutter Details Pane

The **Curb & Gutter Details** pane is the same for **Simplified CPM** and standard format jobs.

Use the following section in Chapter 3:

- For **Curb & Gutter Details** pane information, see 3.5.2 - Shoulder, Curb & Gutter: Curb & Gutter Details Pane.

Copy Shoulder, Curb & Gutter Details

Copy shoulder function is the same for **Simplified CPM** and standard format jobs.

Use the following section in Chapter 3:

- To copy one shoulder side to the other, see 3.5.2 - Shoulder, Curb & Gutter Details: Copy Shoulder, Curb & Gutter Details.

Save Shoulder, Curb & Gutter

Saving shoulder, curb & gutter functions are the same for **Simplified CPM** and standard format jobs.

Use the following section in Chapter 3:

- To save shoulder, curb & gutter, see 3.5.2 - Shoulder, Curb & Gutter Details: Save Shoulder, Curb & Gutter.

4.4.3 - Saving Segment Details

Save Segment or Save Segment as Draft

Saving segment functions are the same for **Simplified CPM** and standard format jobs.

Use the following section in Chapter 3:

- To save segments, see 3.5.3 - Saving Segment Details.

4.5 - Project/Segment Comment Box and Summary in Simplified CPM

Summary

Project and segment comment boxes and summary functions are the same for **Simplified CPM** and standard format jobs.

Use the following sections in Chapter 3:

- For **Project** or **Segment Comments** box information, see 3.8 - Comment Boxes.
- For **Project** or **Segment Summary** information, see 3.9 - Project & Segment Summary.

4.6 - Saving and Finalizing Jobs

Summary

Job status, save as draft, and finalize functions are the same for **Simplified CPM** and standard format jobs.

Use the following sections in Chapter 3:

- For job status information, see 3.10 - Saving and Finalizing Jobs: Job Status.
- To save a job as draft, see 3.10 - Saving and Finalizing Jobs: Save as Draft.
- To submit a job for review, see 3.10 - Saving and Finalizing Jobs: Submit a Job for Review.
- To finalize a job, see 3.10 - Saving and Finalizing Jobs: Finalize a Job.

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PHD *User Guide*

Chapter 5

Review and Reassign

5.1 - Review Process

Summary

Quality assurance is a critical step to assure proper and complete data entry. To ensure that this step is taken, a Review stage is integrated into PHD, where jobs submitted by **Data Entry** users are reviewed by **Data Owner** users. Once a **Data Entry** user submits a job for review (by selecting the **Finalize Job** button), the job will be relocated to the **Review** submenu and the Review stage can begin.

Jobs in the **Review** submenu are only visible to **Data Owner** users. In the **Review** submenu, **Data Owner** users can access Jobs within their Assignment Location jurisdiction. Accessed jobs will look and operate the same as Draft jobs from the **Modify** submenu (see Chapter 3 - Create and Modify Jobs in PHD).

Notifications are not sent when a **Data Entry** user submits a job for review. **Data Owner** users must have active communication with **Data Entry** users and should regularly check the list of jobs in the **Review List** screen for new jobs ready for review.

Data Owner Review Responsibilities

Data Owner users are responsible for job review, editing, reassignment, and finalizing.

If errors or data omissions are identified during job review, **Data Owner** users have two options:

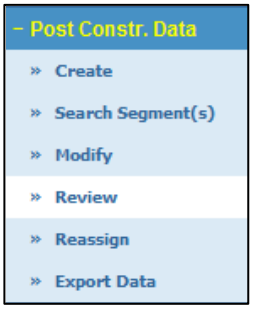
- Make the appropriate edits to the job, or
- Click on **Save Job As Draft** (in the job **Road Segment** List screen) to send the job back to **Draft** Status:
  - The job will appear in **Data Owner** user's list of jobs in the **Modify** submenu.
  - Use the **Reassign** submenu to assign it to another user for edit.

If the job is complete and there are no errors or data omissions, **Data Owner** users should finalize the job:

- Click on **Finalize Job** (in the job **Road Segment List** screen).
  - The job is submitted as a Finalized job in the PHD database and its associated segments can be searched for in the **Search Segment(s)** submenu or **Reports** menu.
  - The job cannot be accessed for edit unless a request is made to the PHD **Administrator** to unlock the job (see 9.3.5 - Unlock Finalized Jobs).

The Project and Segment Summary reports can be very helpful when reviewing jobs.

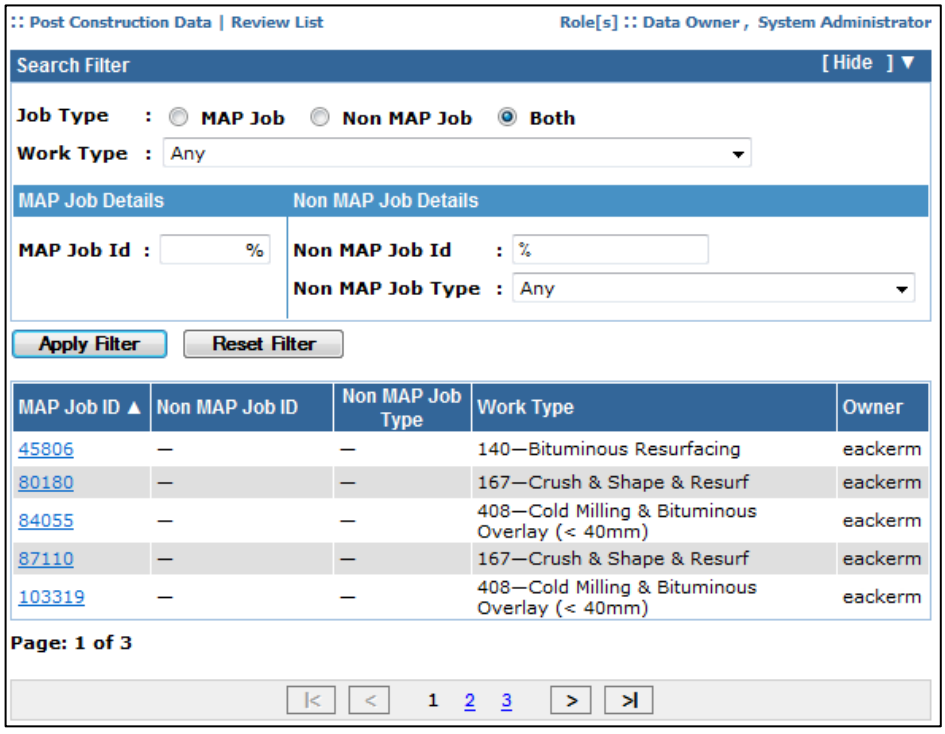
Review Submenu



Select the **Review** submenu from the **Post Construction Data** menu to locate jobs that were finalized by **Data Entry** users and are ready for review. This menu can only be accessed by **Data Owner** users.

The **Review List** screen will display. This screen displays MAP and Non MAP jobs available for review that are within the **Data Owner** user Assignment Location jurisdiction. The headers indicate the Job ID, Work Type, and the Data Entry user who submitted the job for review.

This screen looks and operates like the **Modify List** screen. A sample **Review List** screen is shown below:



- Click the Job ID to open details for the specific job.
- Use the Search Filter to narrow results in the displayed list.
- Use the pagination bar to move forward or back in the list.
- See 2.3 - List Features for further search specific information.

5.2 - Reassign Process

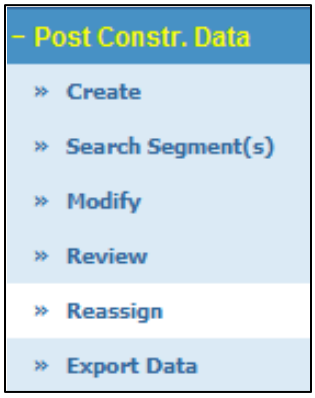
Summary

Data Owner users are responsible for reassigning jobs to other Data Entry or Data Owner users. Therefore, Data Owner users need to coordinate job completion and aid Data Entry users in locating jobs for completion. To facilitate this, the **Reassign** area is available to locate jobs in Draft status for reassignment to other users.

Jobs in the **Reassign** submenu are only visible to **Data Owner** users. Jobs can be reassigned by **Data Owner** users within their Assignment Location jurisdiction.

As indicated in 5.1 - Review Process, jobs may need reassignment if **Data Owner** users need to return jobs from the **Review** area to **Data Entry** users' **Modify** area. Likewise, a job may need reassignment if its assigned user is unable to complete it. Additionally, if a job is in more than one jurisdiction, it may need to be reassigned to users within each jurisdiction.

Reassign Submenu



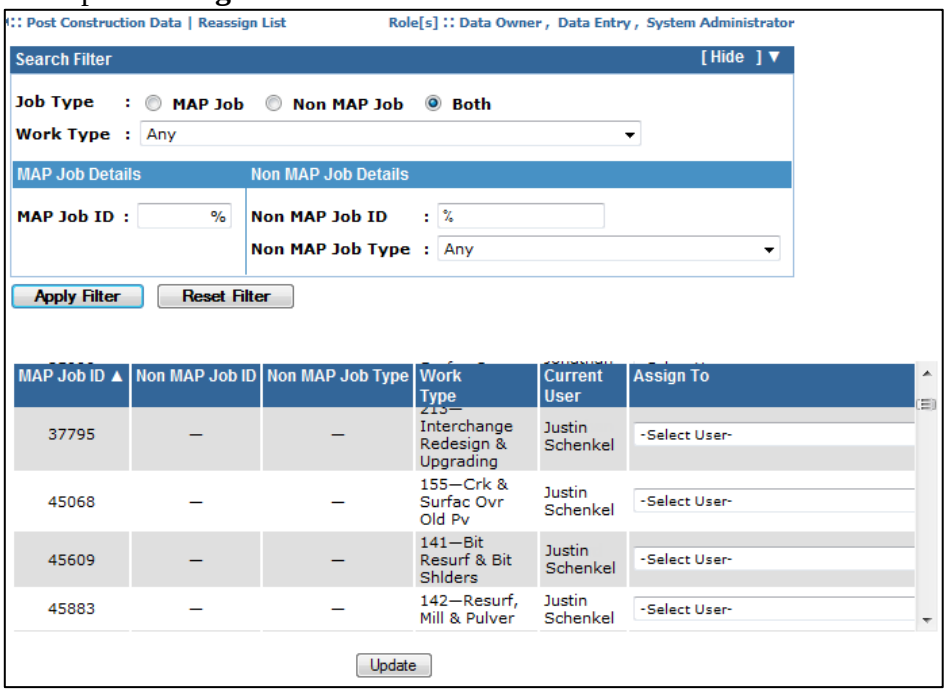
Select the **Reassign** submenu from the **Post Construction Data** menu to reassign jobs to different users. This menu can only be accessed by **Data Owner** users.

The **Reassign List** screen will display. This screen displays MAP and Non MAP jobs still in Draft status (located in a user's **Modify** submenu) that are within the **Data Owner** user Assignment Location jurisdiction. The headers indicate the Job ID, Work Type, the current assigned user, and the user to assign the job to.

Reassign Submenu

(Continued)

A sample **Reassign List** screen is shown below:



To reassign jobs:

- Under the 'Assign To' column header, select the new user from the drop-down list.
- Click Update.

Note: Multiple jobs can be reassigned at the same time. The users can be different or the same.

Notifications are not sent when a job is reassigned. **Data Owner** users must have active communication with the users that are reassigned.

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PHD *User Guide*

Chapter 6

Search Segments

6.1 - Search Segment(s)

Summary

The **Search Segment(s)** submenu allows users to quickly search for finalized project data while working in the PHD interface. Several different search options are available to locate the specifically desired information. Once the segment or segments are located, more specific single segment information is available, including lane, shoulder, and job details. This can save users time and can aid in project planning and scoping processes.

After jobs have been finalized by **Data Owner** users, their segments data can be searched using the **Search Segment(s)** submenu. Segments can be searched by locational information (with comments), layer attributes, layer aggregates, or PR segment limits. A segment shown in the search results can be selected to view job, lane, shoulder, and layer details.

The search types are defined by the 3 panes shown on the Search screen. The search types include:

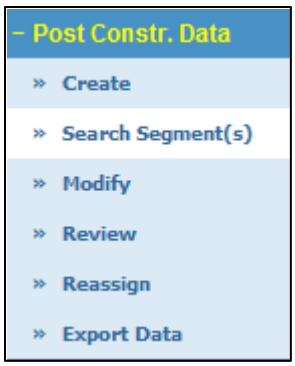
- **General Criteria**
  - This allows users to search by locational information, including Region, TSC, County, and Route.
  - Additionally, this search allows users to search for segments with specified comments from the Segment or Project Comment boxes.
- **Attribute/Aggregate Characteristic**
  - This allows users to search for Layers, Layer Attributes, Attribute Values, Layer Aggregates, or Aggregate Sources.
- **PR Criteria**
  - This allows users to search by PR Number and PR Milepoint limits. The results will show segments that have any section within the specified milepoints.

Note: The 3 search type panes cannot be used in combination with each other. Search Segment(s) uses a hierarchy system, where **PR Criteria** is the first choice, **General Criteria** is the second choice, and **Attribute/Aggregate Characteristics** are last. Consequently, searches using the different search panes will show results using the highest priority criteria pane. For example, a search using **General Criteria** and **PR Criteria** will show results for the **PR Criteria** and the **General Criteria** will be ignored.

Users should only make selections or enter data in one pane per search. To restart a search using a new pane, delete all entered information and reset all drop-down menus to 'Any', or select a new submenu and reselect the **Search Segment(s)** submenu.

Getting Started

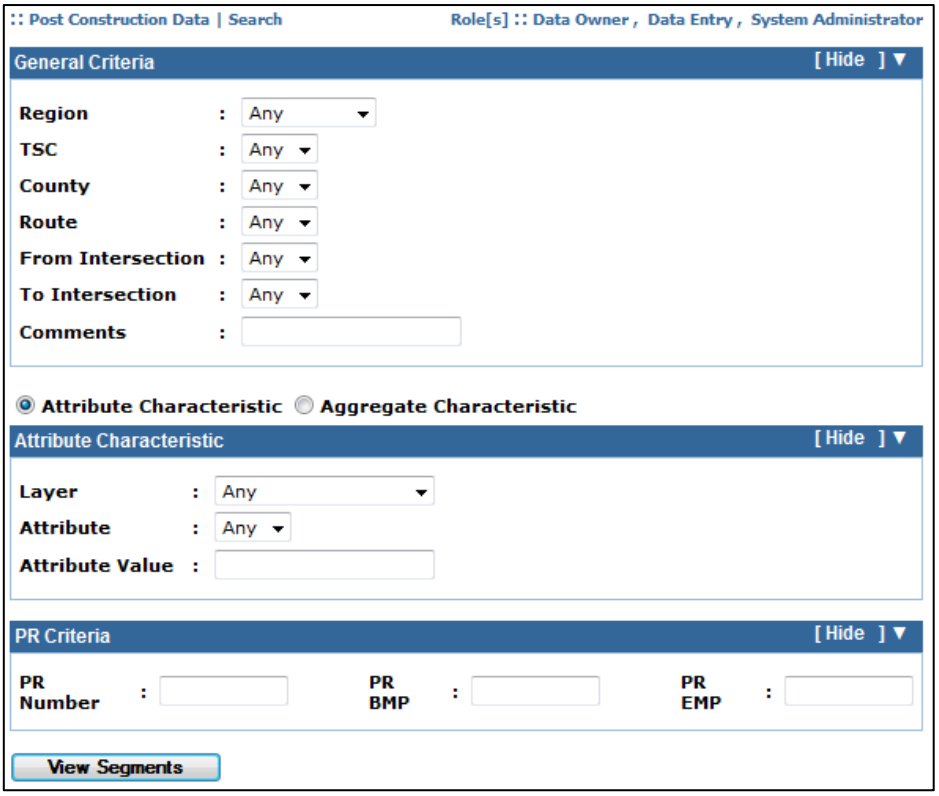
To begin a segment search, select the **Search Segment(s)** submenu from the **Post Construction Data** menu. This menu can be accessed by **Read Only**, **Data Entry**, and **Data Owner** users.



After the submenu selection, the **Search** screen will display. This screen displays the 3 search type panes:

- General Criteria
- PR Criteria
- Attribute/Aggregate Characteristics

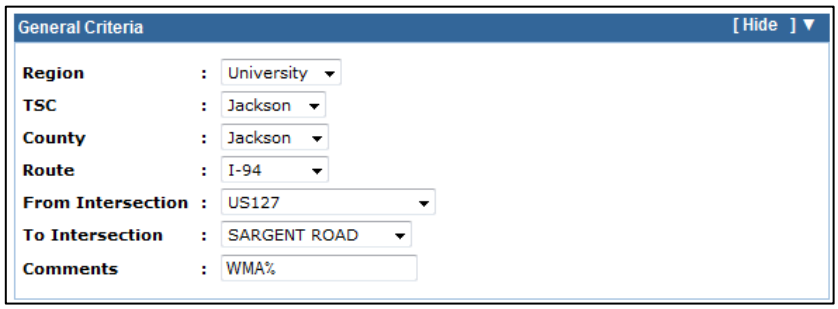
The **Search** screen is shown below:



General Criteria Search

This pane allows users to specify segment searches using **Region**, **TSC**, **County**, or **Route** filters. Additionally, this pane allows for searches of Project or Segment **Comments**. The **Comments** filter can be used with any level of locational criteria.

After the **General Criteria** selections are made, select the *View Segments* button at the bottom of the screen to view search results.



Note: A user must select the previous criteria before moving to the next more specific one. For example, a user searching for all segments in Jackson County must first select *University* from the **Region** drop-down list, then select *Jackson* from the **TSC** drop-down list. Following these selections, the user can select *Jackson* from the **County** drop-down list.

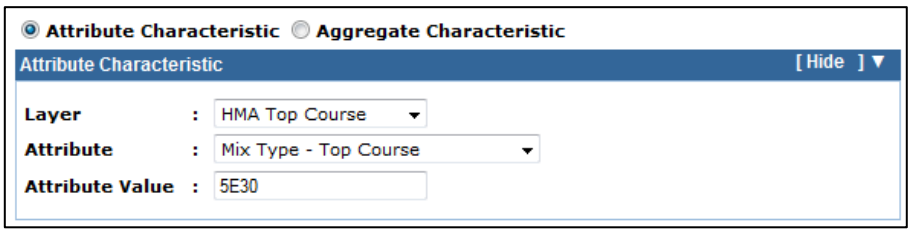
Do not combine this search type pane with the other 2 search type panes. Use each pane separately for searches.

Attribute / Aggregate Characteristic Search

This pane allows users to specify segment searches using Layer *Attributes* or Layer *Aggregate* criteria. The radio button above this pane allows the user to select which criteria to use.

The filters included in *Attribute* criteria are **Layer**, **Attribute**, and **Attribute Value**.

The filters included in the Aggregate criteria are **Layer**, **Aggregate**, and **Aggregate Source**.



Attribute / Aggregate Characteristic Search

(Continued)

After the *Attribute* or *Aggregate Characteristic* selections are made, select the *View Segments* button at the bottom of the screen to view search results.

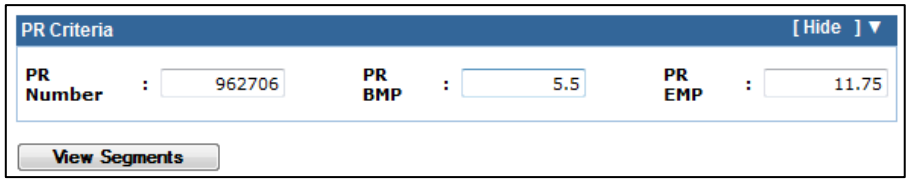
Note: A user must select the previous criteria before moving to the next more specific one. For example, a user searching for all segments using 5E30 HMA Top Course must first select *HMA Top Course* from the **Layer** drop-down list, then select *Mix Type - Top Course* from the **Attribute** drop-down list. Following these selections, the user can enter *5E30* in the **Attribute Value** text box.

Do not combine this search type pane with the other 2 search type panes. Use each pane separately for searches.

PR Criteria Search

This pane allows users to specify segment searches by PR Number and PR Milepoint limits. The results will show segments that have any section within the specified milepoints. Users can also just enter a PR Number to view all segments with that PR Number.

After the **PR Criteria** is entered, select the *View Segments* button at the bottom of the screen to view search results.



Do not combine this search type pane with the other 2 search type panes. Use each pane separately for searches.

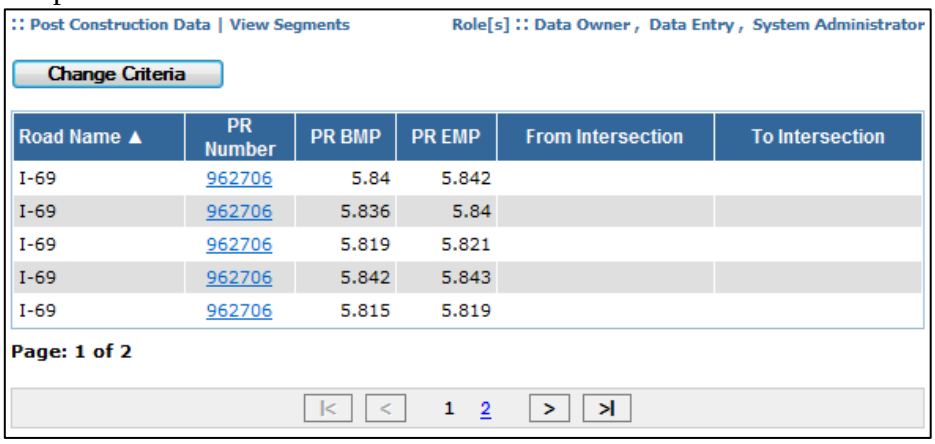
View Segments

After applying one of the search type criteria and selecting the *View Segments* button in the **Search** screen, the **View Segments** screen will display. Segments matching the search criteria will be listed in the new View Segments screen. The segments can be identified and sorted by the column headers. Segments are unique to the jobs they were created in. Each segment can be selected to view its lane and shoulder details. Access details by clicking on the PR Number of the desired row. Subsequently, the **Segment Details** screen will display.

To return to the **Search** screen, click the *Change Criteria* button at the top of the page. To restart a search using a new pane, delete all entered information and reset all drop-down menus to 'Any', or select a new submenu and reselect the **Search Segment(s)** submenu.

View Segments ***(Continued)***

The following is an example of the **View Segments** screen. The example is based on a PR Criteria Search using PR Number 962706, from Milepoints 5.500 to 11.750:

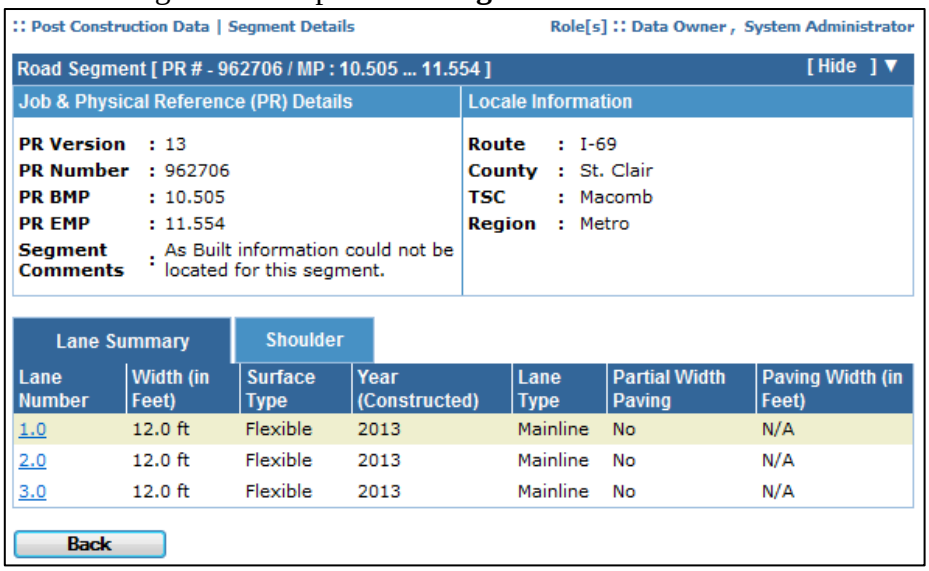


- Use the pagination bar to move forward or back in the list.
- See 2.3 - List Features for further search specific information.

Segment Details

By selecting the PR Number of one of the segments from the **View Segments** screen, the **Segment Details** screen will display. This screen displays the Road Segment pane and Lane Summary/Shoulder tab. Initially, the Lane Summary tab will be selected. View Lane Details by selecting the Lane Summary tab and view Shoulder Details by selecting the Shoulder tab. The Road Segment pane displays general segment information.

The following is an example of the **Segment Details** screen:

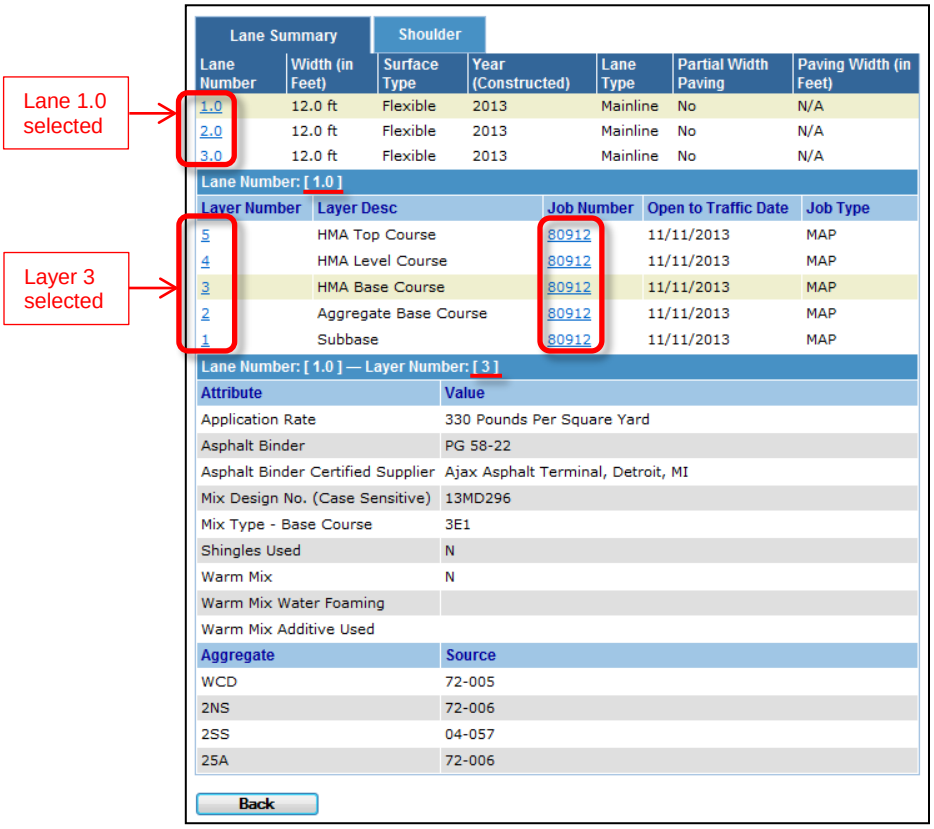


Segment Details

(Continued)

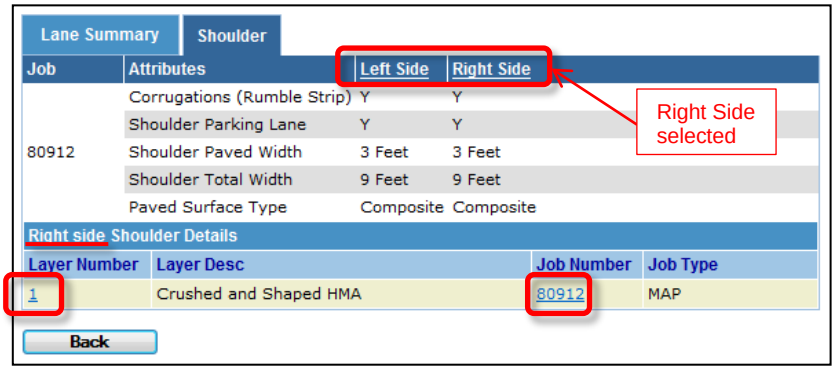
To locate further details from the Lane Summary tab:

- Click on the Lane Number to view its Layers.
  - Click the Layer Number to view its Attribute information.
  - Click on the Job Number to view Job Details.



To locate further details from the Shoulder tab:

- Click the underlined Shoulder Side to view its Layers.
  - Click the Layer Number to view its Attribute information.
  - Click on the Job Number to view Job Details.



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PHD *User Guide*

Chapter 7

Export Data

7.1 - Export Data

Summary

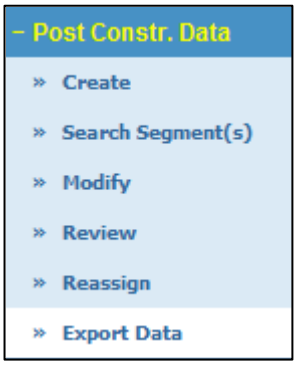
Similar to the **Search Segment(s)** submenu, the **Export Data** submenu allows users to search for existing pavement conditions, but additionally provides an external output Excel file for saving and manipulation. Also, instead of viewing one segment at a time, this format allows the user to view multiple segments at the same time. Data exports can aid in project planning, scoping, support research and be provided to external customers.

After jobs have been finalized by **Data Owner** users, their segment data can be output using the **Export Data** submenu. Output data is filtered by location and detail parameters. The subsequent **Export** output is an Excel CVS file that can be saved, printed, and/or manipulated. The rows are populated by segments that meet the specified parameters and the columns are populated by the user selected Identifiers.

Use the **Export Filter** pane to define location parameters and use the **Export Data Details** pane to define the detail columns.

Getting Started

To create a segment output file, select the **Export** submenu from the **Post Construction Data** menu. This menu can be accessed by **Read Only**, **Data Entry**, and **Data Owner** users.



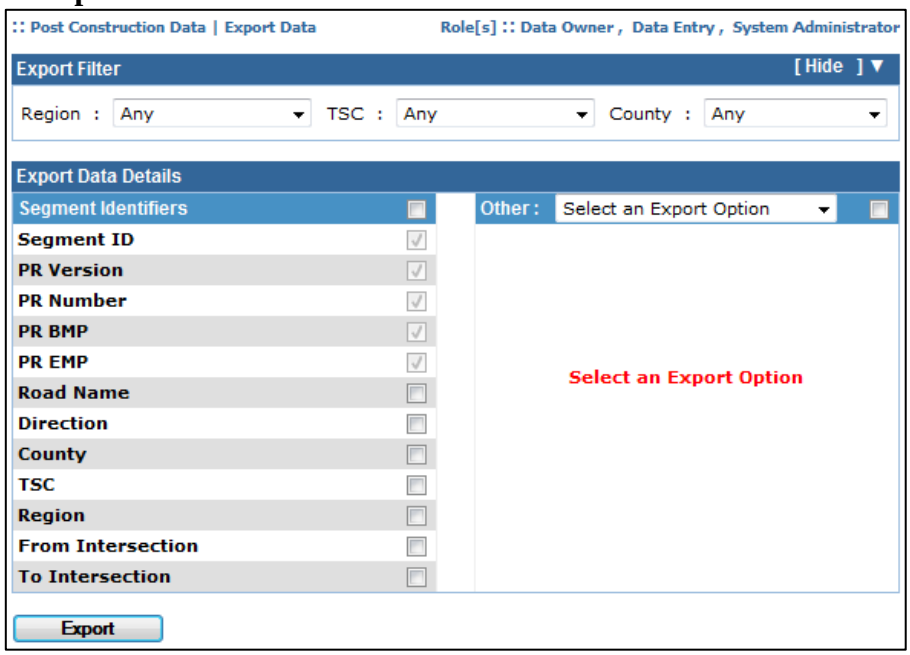
After the submenu selection, the **Export Data** screen will display. This screen displays 2 panes that are used to specify the output file:

- Export Filter
- Export Data Details
  - Segment Identifiers
  - Export Options

Getting Started

(Continued)

The **Export Data** screen is shown below:



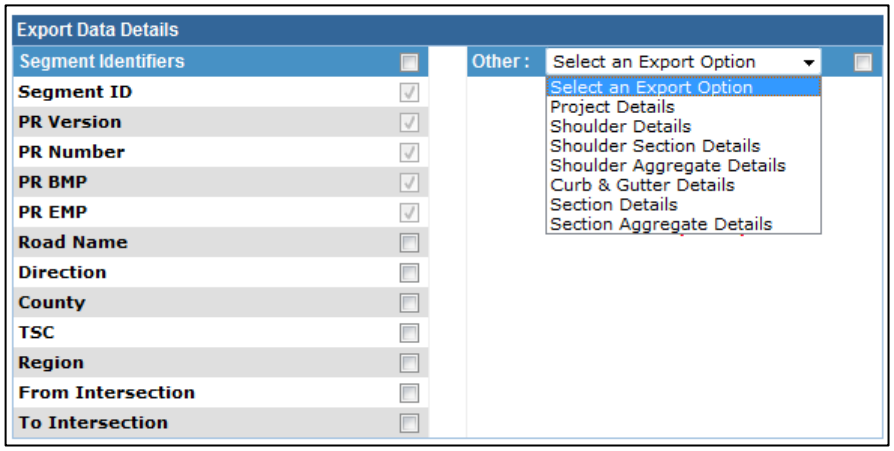
Export Filter

This pane allows users to specify the **Export** output file limits using **Region**, **TSC**, and **County** filters.

Note: A user must select the previous criteria before moving to the next more specific one. For example, a user searching for all segments in Allegan County must first select *Southwest* from the **Region** drop-down list, then select *Kalamazoo* from the **TSC** drop-down list. Following these selections, the user can select *Allegan* from the **County** drop-down list.

Export Data Details

This pane allows users to specify the **Export** output file column headers using the Segment Identifiers and Export Options.



The **Segment Identifiers** on the left side of the screen do not change, but can be customized in the export by checking the boxes next to the items. Segment ID and segment PR items are permanently selected for all exports (denoted by grey check).

The **Other (Export Option)** drop-down list on the right side of the screen allows the user to select the export type. The selected Export Option changes the additional selectable items on the right side. The Export can be further customized by checking the boxes next to the items. The table below outlines the **Other (Export Options)** and their associated selectable items for column headers:

Export Option	Selectable Items (Column Headers)	
Project Details	• MAP Job ID • Non MAP Job Type • National Pvmnt Study No. • Work Type Code • Date (Open to Traffic)	• Non MAP Job ID • Special Project Type • State Pavement Study No. • Work Type Code Description • Fix Life
Shoulder Details	• Side Indicator • Attributes (Name & Value)	• Surface Type
Shoulder Section Details *(Shoulder Layer Attributes)*	• Side Indicator • Layer Number • Attributes (Name & Value)	• Surface Type • Layer Name

Continued >

Export Option	Selectable Items (Column Headers)	
Shoulder Aggregate Details *(Shoulder Layer Aggregates)*	• Side Indicator • Layer Number • Aggregate Name	• Surface Type • Layer Name • Source/Pit Number
Curb & Gutter Details	• Side Indicator	• Attributes (Name & Value)
Section Details *(Lane Details & Layer Attributes)*	• Lane Number • Lane Surface Type • Layer Number • Lane Type	• Year (Constructed) • Lane Width • Layer Name • Attributes (Name & Value)
Section Aggregate Details *(Lane Details & Layer Aggregates)*	• Lane Number • Lane Surface Type • Layer Number • Aggregate Name	• Year (Constructed) • Lane Width • Layer Name • Source/Pit Number

Export Output

To generate the **Export** output, the filters in the **Export Filter** pane need to be defined and the column headers in the **Export Data Details** pane need to be selected. Once selections are made, the *Export* button can be selected to produce the output. Following this selection, an Excel spreadsheet in a webpage pop-up window will appear.

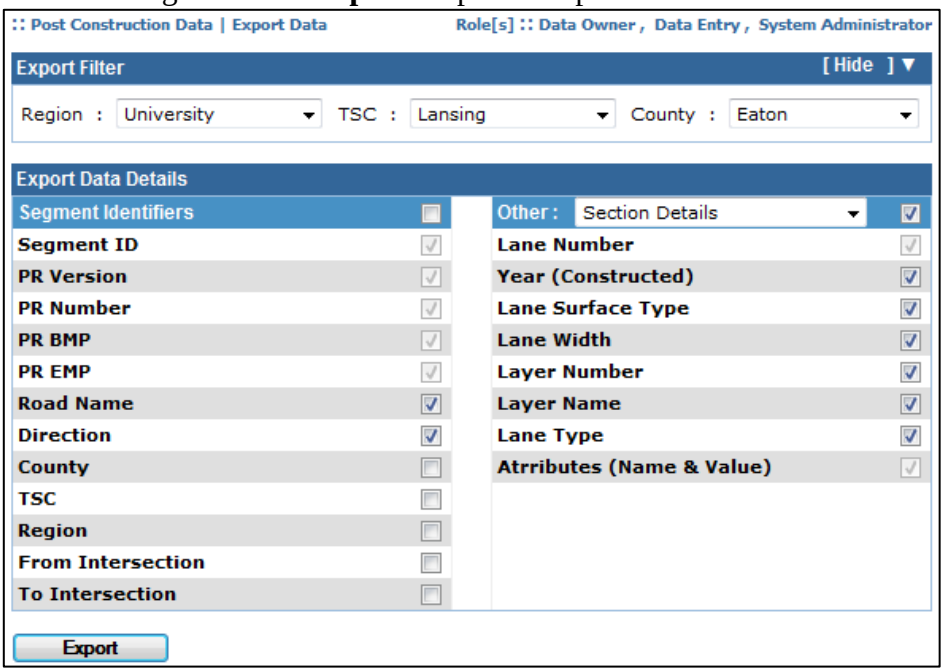
The spreadsheet can be saved to the computer by selecting 'File' and 'Save As…' from the webpage menu bar. Additionally, the spreadsheet can be printed by selecting 'File' and 'Print' from the webpage menu bar.

The Excel file type default is CSV, but this can be changed by selecting the 'Save as type' drop-down list in the Save As pop-up window.

Export Output

(Continued)

The following shows an **Export** output example:



The **Export Filter** pane is defined as follows:

- Region: *University*, TSC: *Lansing*, County: *Eaton*

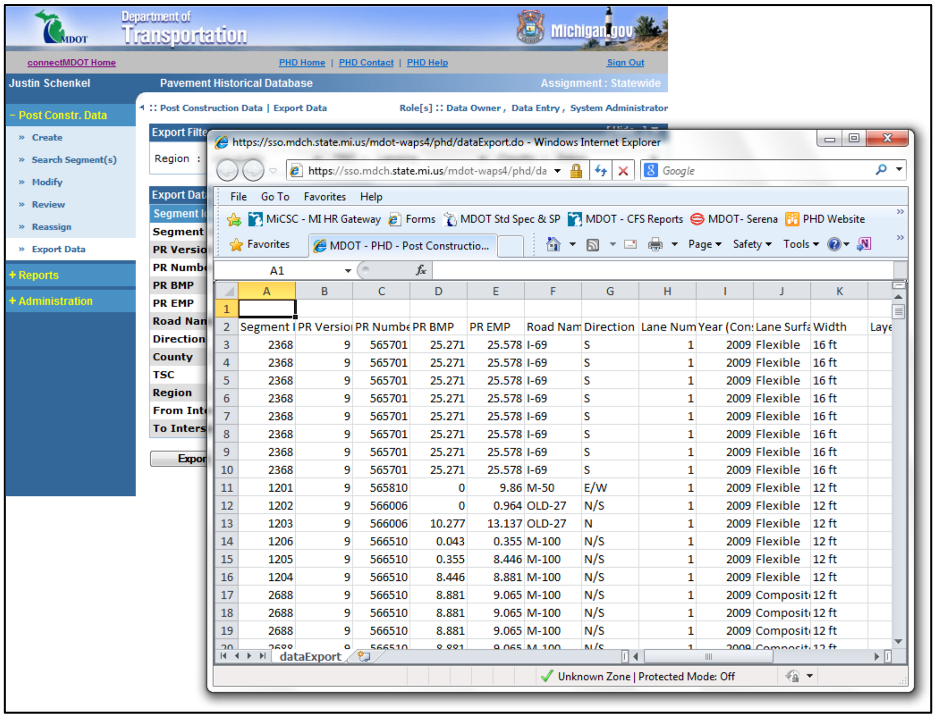
The **Export Data Details** pane is defined as follows:

- Segment Identifiers:
  - Segment ID, PR Version, PR Number, PR BMP, PR EMP, Road Name, Direction
- Other (Export Options): Section Details
  - Lane Number, Year (Constructed), Lane Surface Type, Lane Width, Layer Number, Layer Name, Lane Type, Attributes (Name & Value)

Export Output

(Continued)

After selecting the *Export* button, the Excel spreadsheet appears as follows:



	C	D	E	F	G	H	I	J	K	L	M	N
2	PR Number	PR BMP	PR EMP	Road Name	Direction	Lane Number	Year (Constructed)	Lane Surface Type	Width	Layer Number	Layer Name	Lane Type
3	565701	25.271	25.578	I-69	S	1	2009	Flexible	16 ft	1	Cold Milling	On-Ramp
4	565701	25.271	25.578	I-69	S	1	2009	Flexible	16 ft	1	Cold Milling	On-Ramp
5	565701	25.271	25.578	I-69	S	1	2009	Flexible	16 ft	2	HMA Top Course	On-Ramp
6	565701	25.271	25.578	I-69	S	1	2009	Flexible	16 ft	2	HMA Top Course	On-Ramp
7	565701	25.271	25.578	I-69	S	1	2009	Flexible	16 ft	2	HMA Top Course	On-Ramp
8	565701	25.271	25.578	I-69	S	1	2009	Flexible	16 ft	2	HMA Top Course	On-Ramp
9	565701	25.271	25.578	I-69	S	1	2009	Flexible	16 ft	2	HMA Top Course	On-Ramp
10	565701	25.271	25.578	I-69	S	1	2009	Flexible	16 ft	2	HMA Top Course	On-Ramp
11	565810	0	9.86	M-50	E/W	1	2009	Flexible	12 ft	1	Overband CrackFill Stand Alone	
12	566006	0	0.964	OLD-27	N/S	1	2009	Flexible	12 ft	1	Overband CrackFill Stand Alone	
13	566006	10.277	13.137	OLD-27	N	1	2009	Flexible	12 ft	1	Overband CrackFill Stand Alone	
14	566510	0.043	0.355	M-100	N/S	1	2009	Flexible	12 ft	1	Overband CrackFill Stand Alone	
15	566510	0.355	8.446	M-100	N/S	1	2009	Flexible	12 ft	1	Overband CrackFill Stand Alone	
16	566510	8.446	8.881	M-100	N/S	1	2009	Flexible	12 ft	1	Overband CrackFill Stand Alone	
17	566510	8.881	9.065	M-100	N/S	1	2009	Composite	12 ft	1	PCC Pavement	
18	566510	8.881	9.065	M-100	N/S	1	2009	Composite	12 ft	1	PCC Pavement	
19	566510	8.881	9.065	M-100	N/S	1	2009	Composite	12 ft	1	PCC Pavement	
20	566510	8.881	9.065	M-100	N/S	1	2009	Composite	12 ft	1	PCC Pavement	
21	566510	8.881	9.065	M-100	N/S	1	2009	Composite	12 ft	1	PCC Pavement	
22	566510	8.881	9.065	M-100	N/S	1	2009	Composite	12 ft	1	PCC Pavement	
23	566510	8.881	9.065	M-100	N/S	1	2009	Composite	12 ft	1	PCC Pavement	
24	566510	8.881	9.065	M-100	N/S	1	2009	Composite	12 ft	1	PCC Pavement	
25	566510	8.881	9.065	M-100	N/S	1	2009	Composite	12 ft	1	PCC Pavement	
26	566510	8.881	9.065	M-100	N/S	1	2009	Composite	12 ft	2	HMA Base Course	
27	566510	8.881	9.065	M-100	N/S	1	2009	Composite	12 ft	2	HMA Base Course	
28	566510	8.881	9.065	M-100	N/S	1	2009	Composite	12 ft	2	HMA Base Course	
29	566510	8.881	9.065	M-100	N/S	1	2009	Composite	12 ft	2	HMA Base Course	
30	566510	8.881	9.065	M-100	N/S	1	2009	Composite	12 ft	2	HMA Base Course	

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PHD *User Guide*

Chapter 8

Reports

8.1 - Reports

Summary

PHD is used for data storage, but it is also designed for the purpose of research. Therefore, the **Reports** menu is available to transpose stored data into the form of different reports. These reports can be used to improve pavement management systems by analysis of output trends, quantities, or historical records. Reports can also aid scoping, sufficiency, estimating, and the MDOT Call for Projects.

After jobs have been finalized by **Data Owner** users, their segment data can be output in report form using the **Reports** menu. This menu and all of its submenus can be accessed by **all** PHD user types. The **Reports** menu has the following submenus:

- **Construction History Report**
  - Report shows all data entry on a specified roadway.
- **Material Information Report**
  - Report lists segments that have a specified layer aggregate or layer attribute(s) within specified location limits.
- **Material Quantity Report**
  - Report shows HMA and PCC quantities placed during a specified time period within specified location limits.
- **Network Inventory Report**
  - Report provides lane or shoulder miles of rigid, flexible, and composite pavement as specified by location, year, and trunkline type (freeway or non-freeway).
- **Work Type Report**
  - Report shows segments with a selected Work Type Code for a specified location, year range, layer, layer attribute, and/or layer attribute value.
- **MAP Reconciliation Report**
  - Report shows projects from the MAP database that are not yet entered into PHD. These projects can be filtered by Funding Template, Work Type Code, and letting year range.

8.1.1 - Construction History

Summary

The **Construction History Report** shows all data entry on a specified roadway.

The report displays the roadway segments and their associated information including Region, TSC, county, route name, PR Number, milepoints, job numbers, work types, fix lives, lanes, layers, attributes, and aggregates.

The specified roadway is filtered by its location. Using the **Specific PR (Physical Reference) Segment Details** pane, the roadway location can be specified by entering the PR Number and associated milepoints. Alternatively, using the **Report Data Filter** pane, the roadway location can be determined by the Region, TSC, and County. From this, a list of associated routes and possible intersections can be selected.

This report outputs in PDF format.

The **Construction History Report** is particularly useful for scoping and estimating future road projects.

Getting Started

To create a **Construction History Report**, select the **Construction History** submenu from the **Reports** menu. This menu can be accessed by **all** PHD user types.

After the submenu selection, the **Construction History Report Filter** screen will display. The following panes contain the filters used to specify the report output:

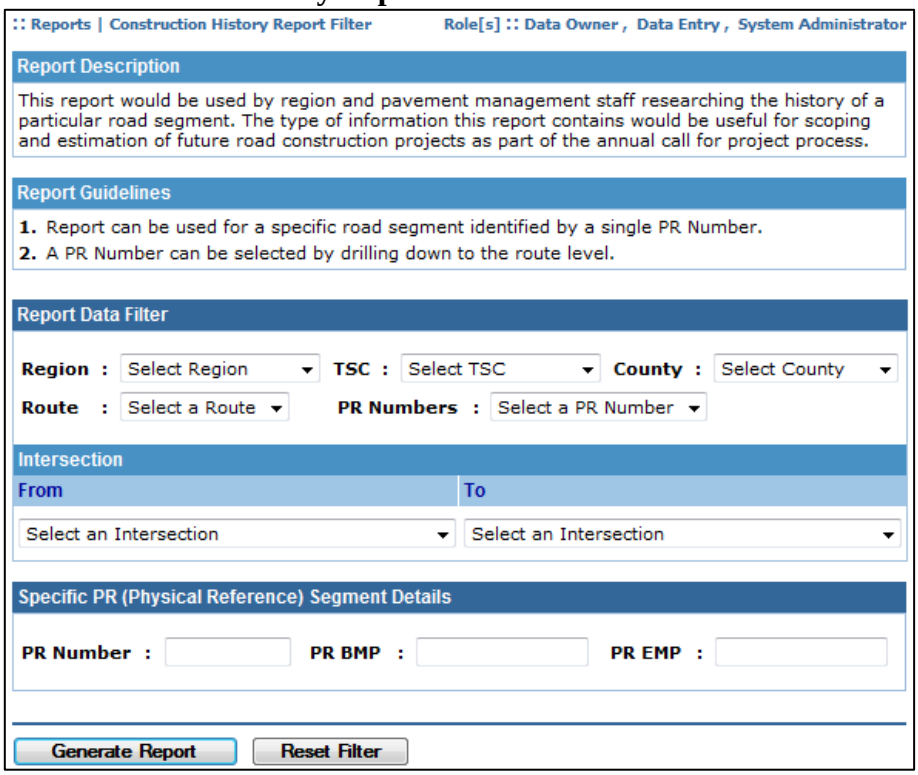
- Report Data Filter
- Specific PR (Physical Reference) Segment Details

The panes operate independently from each other and should not be used at the same time. Use one pane at a time to specify the PR location. Specified pane information can be removed and reset by using the *Reset Filter* button.

Getting Started

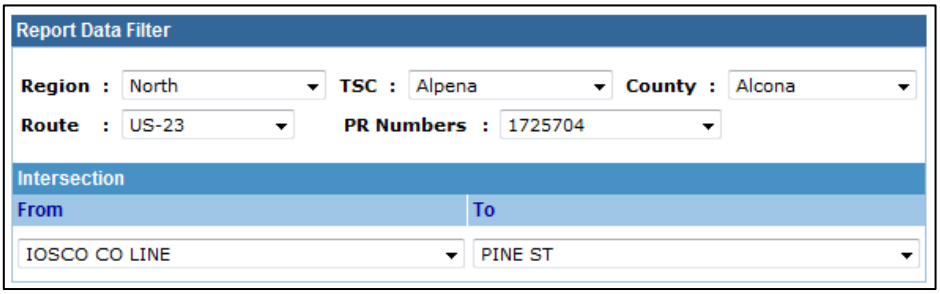
(Continued)

The **Construction History Report Filter** screen is shown below:



Report Data Filter

This pane allows users to specify the report PR location limits using **Region**, **TSC**, and **County** information. After this information is selected, the **Route** drop-down list will be populated with associated routes. After selecting the appropriate route, the **PR Numbers** drop-down list will be populated. Following this selection, the **From** and **To Intersections** can be specified. Select *Generate Report* after all selections are made.



Report Data Filter

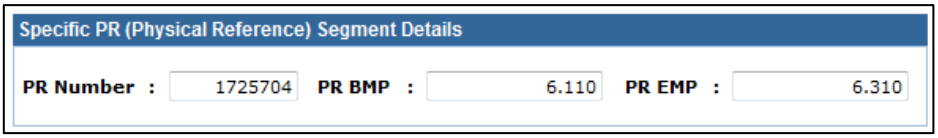
(Continued)

Note: A user must select the previous criteria before moving to the next more specific one. For example, a user searching for a specific route in Alcona County must first select *North* from the **Region** drop-down list, then select *Alpena* from the **TSC** drop-down list. Following these selections, the user can select *Alcona* from the **County** drop-down list. Associated routes will be populated in the **Route** drop-down list.

Do not combine this pane with the **Specific PR (Physical Reference) Segment Details** pane. Use each pane separately. Select *Reset Filter* to restart the search.

Specific PR (Physical Reference) Segment Details

This pane allows users to specify the report PR location limits using the PR Number and PR milepoints. Enter the PR Number in the **PR Number** text box, enter the PR beginning milepoint in the **PR BMP** text box, and enter the PR ending milepoint in the **PR EMP** text box. Select *Generate Report* after all data is entered.



Note: The report will show all segments within the specified milepoints, so the retrieved segment(s) may actually be longer than the specified limits.

Do not combine this pane with the **Report Data Filter** pane. Use each pane separately. Select *Reset Filter* to restart the search.

Construction History Report Output

To generate the report output, the PR filters in the **Report Data Filter** pane or **Specific PR (Physical Reference) Segment Details** pane need to be defined.

Once the PR information is specified, the *Generate Repot* button can be selected to produce the output. Following this selection, a PDF file pop-up window will appear.

The PDF can be saved to the computer by selecting 'File' and 'Save As…' from the menu bar. Additionally, the PDF can be printed by selecting 'File' and 'Print' from the menu bar.

Construction History Report Output

(Continued)

The Report is shown in order of PR milepoints. The milepoint limits are shown per the search and available information. If multiple jobs overlap the same location, the PR milepoint limits will be split at the location of new beginning or ending milepoints. Refer to the dark shaded boxes for PR milepoint limits. Information will be separated by job numbers under each PR milepoint split.

A search using the **Specific PR (Physical Reference) Segment Details** pane and entering *1725704* for PR Number, *6.110* for BMP, and *6.310* for EMP produced the following **Construction History Report** example:

Construction History Report

Segment Details

Region	TSC	County	Route	PR Number	PR BMP	PR EMP
North	Alpena	Alcona	US-23	1725704	6.174	6.214

Chronological Job Summary [Most Recent at Top]

Job Number	Work Type	Fix Life (Yrs)	Cost[1] / Lane Mile ($)	Date	Lanes	Special Project Type	Pavement Study Number
116137	124 - RR Xing Imp & Sfty	20	5,750,845.25	06/26/2013[a]	2	N/A	N/A

[1] - Construction Cost or A Phase CTD from MPINS / [a] - Open to Traffic Date / [b] - Let Date / [c] - A Phase start date

Lane [1.0], Lane Type [Mainline], Sectional Details [Surface Type:Flexible / Width: 12.00 ft / Partial Width Paving: No / Paving Width: N/A]

Year Constructed	Pavement	Attribute	Value	Aggregate	Pit / Source
2013	HMA Top Course	AWI (Actual)	264	5/8 Coarse	04-060
		Application Rate	220 Pounds Per Square Yard	Fines	04-060
		Asphalt Binder	PG 64-28	Impact	04-060
		Asphalt Binder Certified Supplier	BP, Bay City, MI	Man Sand	04-060
		Mix Design No. (Case Sensitive)	11MD362(mod)	2NS	04-060
		Mix Type - HMA Top Course	4E1		
		Shingles Used	N		
		Warm Mix	N		
		Warm Mix Water Foaming			
		Warm Mix Additive Used			
	HMA Level Course	Application Rate	275 Pounds Per Square Yard	5/8 Coarse	04-060
		Asphalt Binder	PG 64-28	Fines	04-060
		Asphalt Binder Certified Supplier	BP, Bay City, MI	Impact	04-060
		Mix Design No. (Case Sensitive)	11MD362(mod)	Man Sand	04-060
		Mix Type - HMA Level Course	4E1	2NS	04-060
		Shingles Used	N		
		Warm Mix	N		
		Warm Mix Water Foaming			
		Warm Mix Additive Used			
	HMA Base Course	Application Rate	330 Pounds Per Square Yard	Impact	04-060
		Asphalt Binder	PG 58-28	Man Sand	04-060
		Asphalt Binder Certified Supplier	BP, Bay City, MI	2NS	04-060
		Mix Design No. (Case Sensitive)	12MD224(mod)	17A	04-053
		Mix Type - HMA Base Course	3E1	29A	04-053
		Shingles Used	N		
		Warm Mix			
		Warm Mix Water Foaming			
		Warm Mix Additive Used			

8.1.2 - Material Information

Summary

The **Material Information Report** lists segments that have a specified layer aggregate or layer attribute(s) within specified location limits.

The report displays a table with rows defined by segments and column headers that identify job number, route, county, PR Number, PR milepoints, open to traffic/let date, Remaining Service Life (RSL), Year of RSL, and Work Type Code. The specified filters are shown in a table at the top of the report.

The listed segments can be filtered by statewide, Region, TSC, or county location. Additionally, segments are filtered by layer *Attribute* or *Aggregate* criteria.

The listed segments can be sorted by job number, route, county, and/or Work Type Code in ascending or descending orders.

This report outputs in PDF or Excel format.

The **Material Information Report** is particularly useful for researching specific materials, performing material cost analyses, and obtaining historical reference information.

Getting Started

To create a **Material Information Report**, select the **Material Information** submenu from the **Reports** menu. This menu can be accessed by **all** PHD user types.

After the submenu selection, the **Material Information Report Filter** screen will display. The following panes contain the filters used to specify the report output:

- Geographic Filter
- Report Data Filter

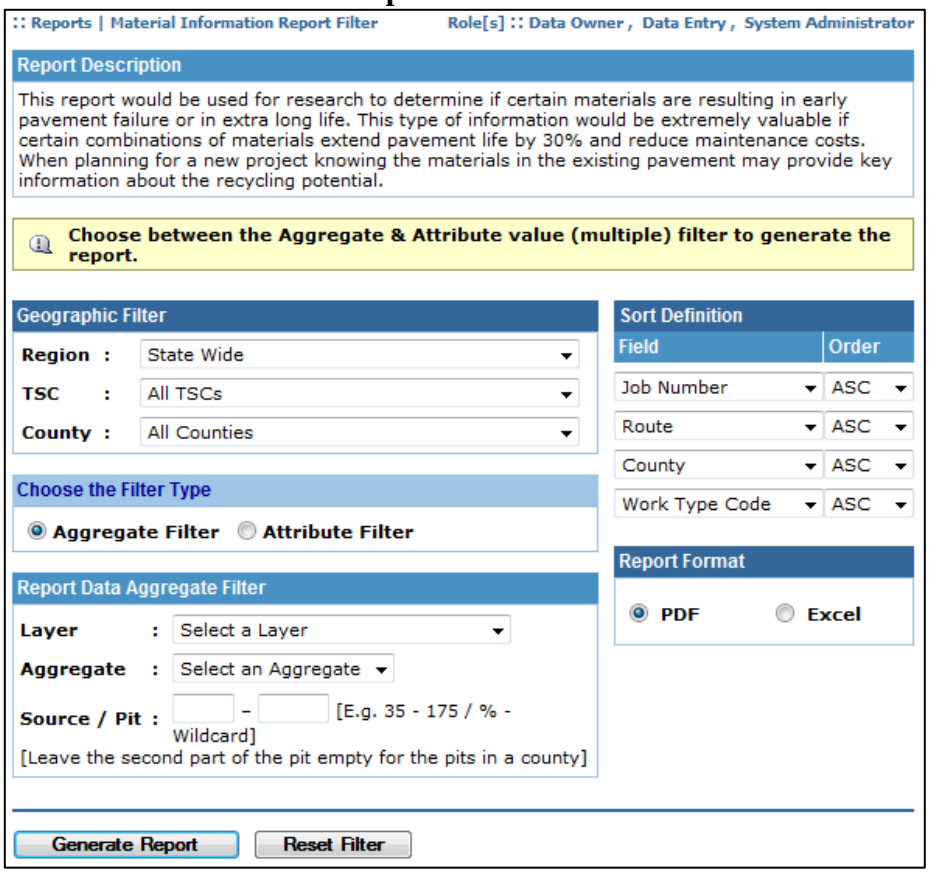
The following panes specify the report appearance:

- Sort Definition
- Report Format

Getting Started

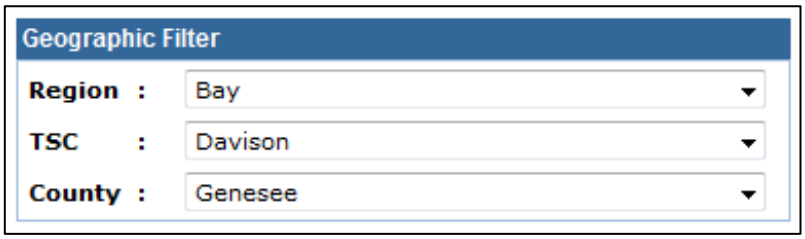
(Continued)

The **Material Information Report Filter** screen is shown below:



Geographic Filter

The **Geographic Filter** pane allows users to specify the location of the segments that are output in the report. The location can be filtered by statewide, **Region**, **TSC**, and **County**.



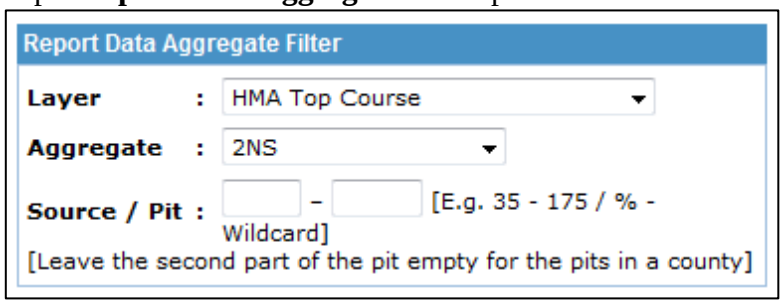
Note: A user must select the previous criteria before moving to the next more specific one. For example, a user searching for all segments in Genesee County must first select *Bay* from the **Region** drop-down list, then select *Davison* from the **TSC** drop-down list. Following these selections, the user can select *Genesee* from the **County** drop-down list.

Filter Type & Report Data Filter

The **Choose the Filter Type** option allows users to specify which **Report Data Filter** pane will be used. Select either *Aggregate Filter* or *Attribute Filter*. Only one filter type can be used at a time.

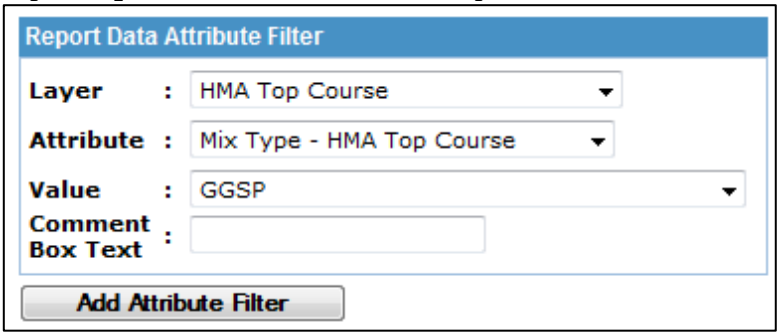
Selecting the *Aggregate Filter* will allow the user to specify a specific layer **Aggregate** and/or **Source** filter.

An example **Report Data Aggregate Filter** pane is shown below:



Selecting the *Attribute Filter* will allow the user to specify a layer **Attribute**, layer attribute **Value**, and/or **Comment** filter. For this filter type, individual or multiple attribute/value/comment filters can be used. This will locate segments when any of the multiple filters are true. For example, a user can add a filter for HMA Top Course, Mix Type, GGSP and add another filter for HMA Level Course, Mix Type, All. This will locate segments that use HMA Top Course with GGSP and then locate segments that use any HMA Leveling Course.

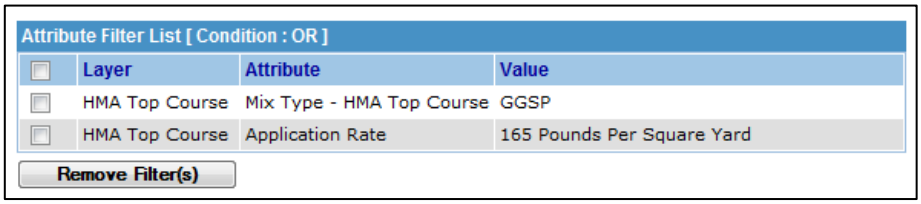
An example **Report Data Attribute Filter** pane is shown below:



Filter Type & Report Data Filter

(Continued)

When the **Report Data Attribute Filter** pane is used, the **Attribute Filter List** is shown. It indicates the attribute filters for the report. Filters can be added and removed from this list. To add more attributes, continue to define the attributes in the **Report Data Attribute Filter** pane and select *Add Attribute Filter*. Remove filters from the list by selecting the appropriate check box or boxes and select *Remove Filter(s).*

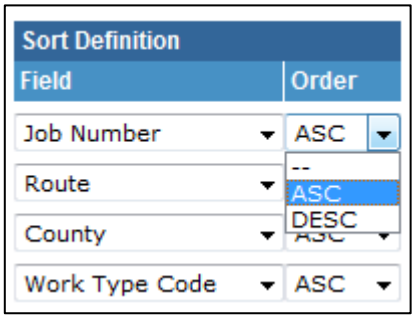


Note: For both **Report Data Filters**, a user must select the previous criteria before moving to the next more specific one. For example, a user searching for segments using 2NS aggregate in the HMA Top Course must first select *HMA Top Course* from the **Layer** drop-down list, then select *2NS* from the **Aggregate** drop-down list.

After selections have been made and the **Sort Definition** and **Report Format** are specified (see next section), the *Generate Report* button can be selected to obtain the report. Alternatively, select *Reset Filter* to clear all selections and set all filters back to the defaults.

Sort Definition & Report Format

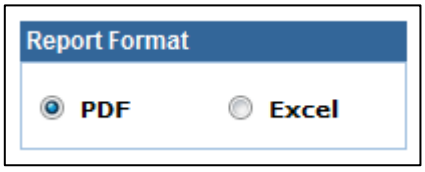
Use the **Sort Definition** pane to define the order of the segments in the report list. Segments can be sorted by their **Job Number**, **Route**, **County**, and/or **Work Type Code**. These fields can be defined in ascending or descending order. Fields are shown in order of operation, so the field shown on the top is the first sort option followed by fields shown below.



Sort Definition & Report Format

(Continued)

Use the **Report Format** pane to select the report format. The report can be output in PDF or Excel format. The default selection is PDF format.



Material Information Report Output

To generate the **Material Information Report** output, the filters in the **Geographic Filter** pane need to be selected and the **Report Data Filter** pane *aggregate* or *attribute(s)* need to be specified (based on the filter type). Additionally, the selections in the **Sort Definition** and **Report Format** panes should be verified and changed if needed.

Once the selections are made, the *Generate Report* button can be selected to produce the output. Following this selection, a PDF or Excel spreadsheet pop-up window will appear (based on the selected format).

The PDF or spreadsheet can be saved to the computer by selecting 'File' and 'Save As…' from the menu bar. Additionally, the PDF or spreadsheet can be printed by selecting 'File' and 'Print' from the menu bar.

Material Information Report Output

(Continued)

An example **Material Information Report** is specified as follows:

- In the **Geographic Filter** pane, the following location filters were selected:
  - Region: *Bay*
    - TSC: *Davison*
      - County: *Genesee*
- In the **Choose the Filter Type** option, the *Attribute Filter* type was selected.
- In the **Report Data Attribute Filter** pane, the following attribute filters were selected:
  - Layer: *HMA Top Course*
    - Attribute: *Mix Type*
      - Value: *GGSP*
  - Layer: *HMA Top Course*
    - Attribute: *Application Rate*
      - Value: *165*
- In the **Sort Definition** pane, the *defaults* were retained.
- In the **Report Format** pane, the *default* was retained (PDF).

Material Information Report

Report Criteria [Region: Bay / TSC: Davison / County: Genesee]

Pavement	Attribute	Attribute Value
HMA Top Course	Mix Type - HMA Top Course	GGSP
HMA Top Course	Application Rate	165

Report Data

Job Number	Route	County	PR Number	PR BMP	PR EMP	Date	RSL	Year RSL	Work Type
100294	M-57	Genesee	1494503	6.013	6.091	02/03/2012[b]	-	-	140 - Bituminous Resurfacing
100294	M-57	Genesee	1494503	4.481	5.693	02/03/2012[b]	-	-	140 - Bituminous Resurfacing
100294	M-57	Genesee	1494503	5.762	6.013	02/03/2012[b]	-	-	140 - Bituminous Resurfacing
100294	M-57	Genesee	1494503	7.654	7.663	02/03/2012[b]	-	-	140 - Bituminous Resurfacing
100294	M-57	Genesee	1494503	6.091	7.577	02/03/2012[b]	-	-	140 - Bituminous Resurfacing
100294	M-57	Genesee	1494503	7.663	7.92	02/03/2012[b]	-	-	140 - Bituminous Resurfacing
100294	M-57	Genesee	1494503	5.693	5.762	02/03/2012[b]	-	-	140 - Bituminous Resurfacing
100294	M-57	Genesee	1494503	3.781	4.083	02/03/2012[b]	-	-	140 - Bituminous Resurfacing
100294	M-57	Genesee	1494503	7.577	7.654	02/03/2012[b]	-	-	140 - Bituminous Resurfacing
100294	M-57	Genesee	1494503	4.083	4.481	02/03/2012[b]	-	-	140 - Bituminous Resurfacing
108217	M-15	Genesee	1501502	2.8	3.52	08/30/2010[a]	-	-	408 - Cold Milling & Bituminous Overlay (< 40mm)
108217	M-15	Genesee	1501502	3.52	3.93	08/30/2010[a]	-	-	408 - Cold Milling & Bituminous Overlay (< 40mm)
108217	M-15	Genesee	1501502	3.93	7.73	2.8	08/30/2010[a]	-	408 - Cold Milling & Bituminous Overlay (< 40mm)

8.1.3 - Material Quantity

Summary

The **Material Quantity Report** shows HMA and PCC quantities placed during a specified time period within specified location limits.

The report displays a table with rows defined by TSC's and column headers that identify Region, TSC, and PCC and HMA quantities by lane miles, volume, and area. TSC's are listed in groups per Region. Region quantity totals are shown in rows below each grouping.

The listed TSC's are determined by a statewide, Region, or TSC filter.

This report outputs in PDF or Excel format.

The **Material Quantity Report** is particularly useful for comparing HMA to PCC quantities.

Getting Started

To create a **Material Quantity Report**, select the **Material Quantity** submenu from the **Reports** menu. This menu can be accessed by **all** PHD user types.

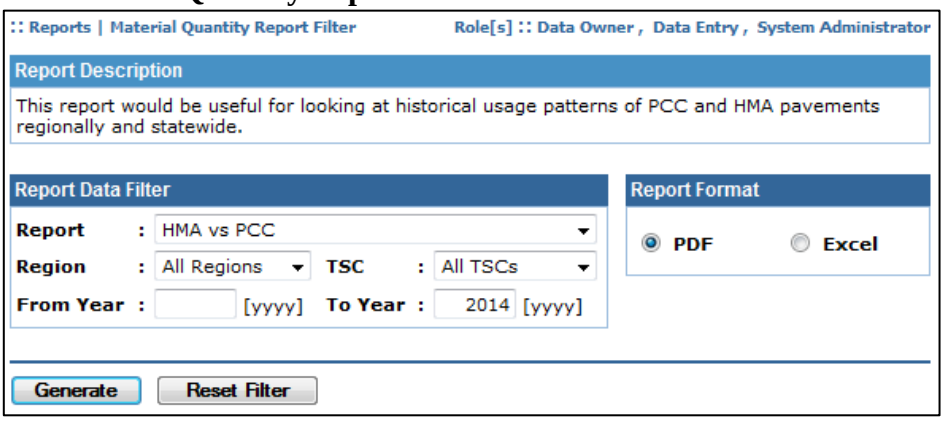
After the submenu selection, the **Material Quantity Report Filter** screen will display. The following pane contains the filters used to specify the report output:

- Report Data Filter

The following pane specifies the report format appearance:

- Report Format

The **Material Quantity Report Filter** screen is shown below:

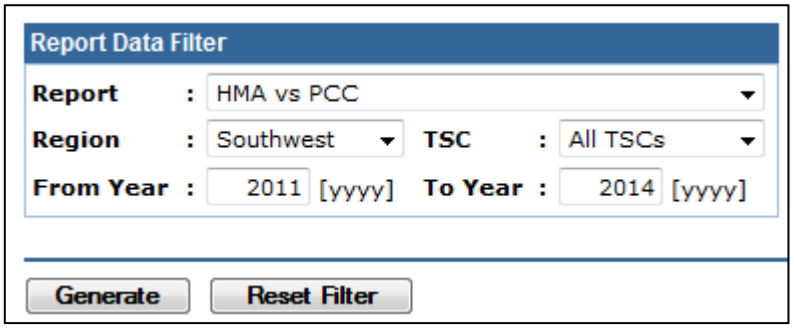


Report Data Filter

Use the **Report Data Filter** pane to specify the following filters:

- Select location parameters from the **Region** and **TSC** drop-down lists to specify statewide, Region, or TSC.
- Enter the **From Year** and **To Year** to indicate the data year range.

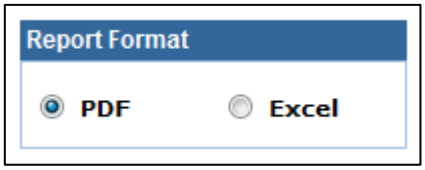
Note: The **Report** drop-down is always HMA vs PCC and it cannot be changed.



After selections have been made and the **Report Format** is specified (see next section), the *Generate* button can be selected to obtain the report. Alternatively, select *Reset Filter* to clear all selections and set all filters back to the defaults.

Report Format

Use the **Report Format** pane to select the report format. The report can be output in PDF or Excel format. The default selection is PDF format.



Material Quantity Report Output

To generate the **Material Quantity Report** output, the location filters and year range in the **Report Data Filter** pane need to be specified. Additionally, specify PDF or Excel in the **Report Format** pane.

Once conditions are specified, the *Generate* button can be selected to produce the output. Following this selection, a PDF or Excel spreadsheet pop-up window will appear (based on the selected format).

The PDF or spreadsheet can be saved to the computer by selecting 'File' and 'Save As…' from the menu bar. Additionally, the PDF or spreadsheet can be printed by selecting 'File' and 'Print' from the menu bar.

An example **Material Quantity Report** is specified as follows:

- In the **Report Data Filter** pane, the following location filters were selected:
  - Region: *Southwest*
    - TSC: *All TSCs*
  - From Year: *2011*
  - To Year: *2014*
- In the **Report Format** pane, the *default* was retained (PDF).

Material Quantity Report

Report Criteria

Region	TSC	From Year	To Year
Southwest	All TSCs	2011	2014

Report Data

Region	TSC	Lane Miles (miles)		Volume (cu. yds) / Tonnage (tons)		Area (sq. yds)	
		PCC	HMA	PCC	HMA	PCC	HMA
Southwest	Kalamazoo	17.72	80.98	124,923.11	575,374.17	36,435.91	60,512.99
Southwest	Marshall	0.00	48.16	0.00	333,536.02	0.00	35,670.38
Southwest	Coloma	0.00	71.59	0.00	496,054.31	0.00	58,367.44
Southwest Region Totals		17.72	200.74	124,923.11	1,404,964.49	36,435.91	154,550.81

8.1.4 - Network Inventory

Summary

The **Network Inventory Report** provides lane or shoulder miles of rigid, flexible, and composite pavement for a specified location, year, and trunkline type (freeway and/or non-freeway).

The report displays a table with rows defined by Regions, TSC's, counties, and routes and column headers that identify Region, TSC, county, route, and lane-miles of each type of pavement (flexible, rigid, and composite).

The lane-mile quantities are derived from the accumulation of all entered information to the end of the year specified by the user. Quantity subtotals are shown in rows below each locational grouping. For example, a report showing routes will group the routes by county. At the bottom of each route grouping, the county totals will be shown. Next, the counties will be grouped by TSC. At the bottom of each county grouping, the TSC totals will be shown. At the bottom of each TSC grouping, the associated Region totals will be shown.

Note: Totals are representative of the current search and the data displayed on the report. For example, if only Livingston county is searched for, the county, TSC, and Region totals will be the same. If University Region is searched for, the county totals will be unique, each TSC total will show the accumulation of its counties, and the Region total will show the accumulation of the TSC's.

The locations are determined by a statewide, Region, TSC, county, or route filter.

More information and specific quantities can be shown by specifying a greater level of detail. For example, a report using a TSC location filter will show the quantities for each county in the TSC limits. By specifying the next greater level of detail, the quantity for each route within each county will be shown.

This report outputs in PDF format.

The **Network Inventory Report** is particularly useful for locating and quantifying trunkline pavement types. Additionally, this report can also indicate pavement type trends. Based on this information, MDOT can better determine its resource allocation.

Getting Started

To create a **Network Inventory Report**, select the **Network Inventory** submenu from the **Reports** menu. This menu can be accessed by **all** PHD user types.

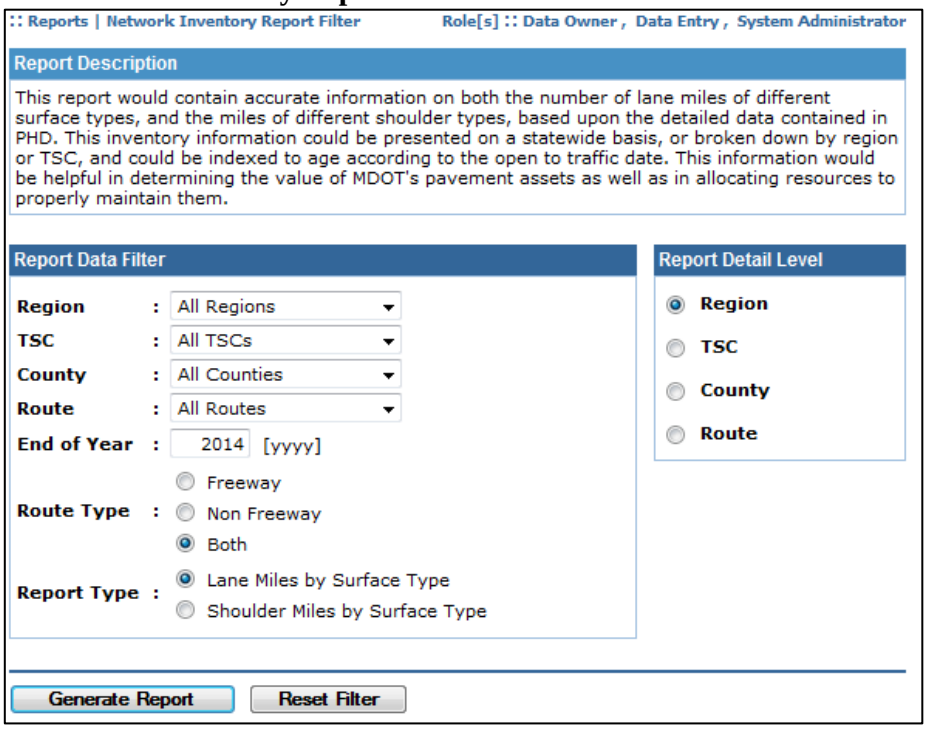
After the submenu selection, the **Network Inventory Report Filter** screen will display. The following pane contains the filters used to specify the report output:

- Report Data Filter

The following pane specifies the report appearance:

- Report Detail Level

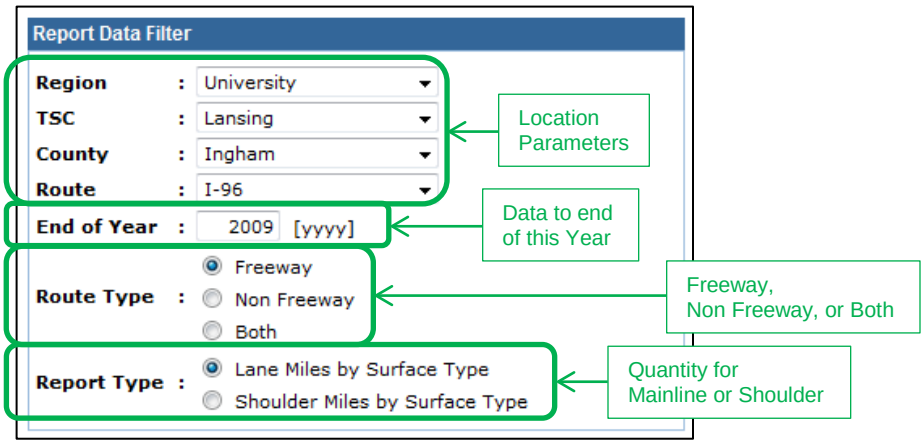
The **Network Inventory Report Filter** screen is shown below:



Report Data Filter

Use the **Report Data Filter** pane to specify the following filters:

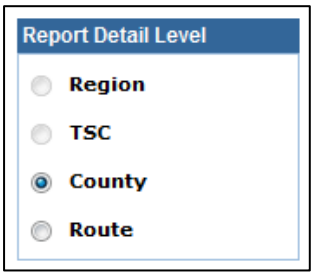
- Select the location parameters from the drop-down lists to specify statewide, **Region**, **TSC**, **County**, or **Route**.
- In the **End of Year** text box, enter the appropriate year. This will specify that all information entered before and through the end of that year should be used.
  - For example, if 2009 is entered, all entered pavement lane-miles before and through the end of 2009 will be shown in the report. This means that information from 2008, 2007, 2006, and earlier will be used and shown in the quantities.
  - The year entry is identified in data entry when users input Year [Paved/Placed].
- Select the appropriate **Route Type** radio button to specify if freeway, non freeway, or all trunkline should be quantified.
- Select the appropriate **Report Type** radio button to specify whether the report will be based on mainline or shoulder miles.
  - Mainline is defined by the travel lanes.
  - Shoulder is defined by the paved left and right shoulder.



After selections have been made and the **Report Detail Level** is specified (see next section), the *Generate Report* button can be selected to obtain the report. Alternatively, select *Reset Filter* to clear all selections and set all filters back to the defaults.

Report Detail Level

Use the **Report Detail Level** pane to select the report level of detail. By selecting a more specific level, the report will output more information to identify that specified level. For example, if *Route* is the selected level of detail, lane-miles for all routes will be shown.



The default selection is the most general level of detail for the specified filter. When a level's radio button is in grey and not selectable, it is equally or more general than the specified filters. For example, if *University* is selected from the Region drop-down list in the **Report Data Filter** pane, then *Region* cannot be selected in the **Report Detail Level** pane. In this scenario, at least TSC information must be identified.

The following example shows a *University* Region search using the *TSC* detail level:

Network Inventory Report - Lane Miles by Surface Type - TSC Level

Network: Freeway & Non Freeway

Region	TSC	County	Route	Lane Miles		
				Flexible	Rigid	Composite
University	Brighton	All	All	19.442	136.440	93.267
	Jackson	All	All	102.705	53.117	129.083
	Lansing	All	All	185.228	65.643	153.191
			University Region Totals	307.375	255.200	375.541
			State Totals	307.375	255.200	375.541

The following example shows a *University* Region search using the *County* detail level:

Network Inventory Report - Lane Miles by Surface Type - County Level

Network: Freeway & Non Freeway

Region	TSC	County	Route	Lane Miles		
				Flexible	Rigid	Composite
University	Brighton	Livingston	All	5.904	0.000	0.000
		Monroe	All	13.538	121.860	54.283
		Washtenaw	All	0.000	14.580	38.984
			Brighton TSC Totals	19.442	136.440	93.267
	Jackson	Hillsdale	All	50.202	1.678	29.729
		Jackson	All	30.587	51.439	92.976
		Lenawee	All	21.916	0.000	6.378
			Jackson TSC Totals	102.705	53.117	129.083
	Lansing	Clinton	All	25.167	29.568	19.162
		Eaton	All	77.667	14.048	0.046
		Ingham	All	72.468	22.027	89.847
		Shiawassee	All	9.926	0.000	44.136
			Lansing TSC Totals	185.228	65.643	153.191
			University Region Totals	307.375	255.200	375.541
			State Totals	307.375	255.200	375.541

Network Inventory Report Output

To generate the **Network Inventory Report** output, the **Report Data Filter** pane filters and selections need to be specified. Additionally, the level of detail in the **Report Detail Level** pane should be verified and changed if needed.

Once conditions are specified, the *Generate Report* button can be selected to produce the output. Following this selection, a PDF pop-up window will appear.

The PDF can be saved to the computer by selecting 'File' and 'Save As…' from the menu bar. Additionally, the PDF can be printed by selecting 'File' and 'Print' from the menu bar.

An example **Network Inventory Report** is specified as follows:

- In the **Report Data Filter** pane, the following filters and selections were specified:
  - Region: *University*
    - TSC: *Brighton*
      - TSC: *Livingston*
        - Route: *All Routes*
  - End of Year: *2013*
  - Route Type: *Both (Freeway and Non Freeway)*
  - Report Type: *Lane Miles by Surface Type*
- In the **Report Detail Level** pane, the following was selected:
  - Level: *Route*

Network Inventory Report - Lane Miles by Surface Type - Route Level

Network: Freeway & Non Freeway

Region	TSC	County	Route	Lane Miles		
				Flexible	Rigid	Composite
University	Brighton	Livingston	I-96	34.828	0.000	0.000
			M-106	7.532	0.000	0.286
			M-36	13.832	0.000	0.000
			M-59	5.904	0.000	0.000
			US-23	0.000	10.464	0.000
		Livingston County Totals		62.096	10.464	0.286
	Brighton TSC Totals			62.096	10.464	0.286
University Region Totals				62.096	10.464	0.286
State Totals				62.096	10.464	0.286

8.1.5 - Work Type

Summary

The **Work Type Report** shows segments with a selected Work Type Code for a specified location, year range, layer, layer attribute, and/or layer attribute value.

The report displays a table with rows defined by segments and column headers that identify job number, Region, TSC, route, PR Number, PR milepoints, segment lane miles, open to traffic/let/start date, and work type. At the bottom of the list, the total lane miles for all listed segments will be shown.

The listed segments can be filtered by:

- Work Type per Work Type Code.
- Location including statewide, Region, or TSC.
- Year Range of open to traffic, let, or start date year
  - The date type is dependent on what date type is obtained from the segment's job.
- Layer criteria including layers, layer attributes, and layer attribute values.

The listed segments can be sorted by Region, TSC, year, and/or Work Type Code in ascending or descending orders.

The report outputs in PDF or Excel format.

The **Work Type Report** is particularly useful to determine where and how often specific types of work and pavement are being applied throughout the state.

Getting Started

To create a **Work Type Report**, select the **Work Type** submenu from the **Reports** menu. This menu can be accessed by **Read Only**, **Data Entry**, **Data Owner**, and **Administrator** users.

After the submenu selection, the **Work Type Report Filter** screen will display. The following pane contains the filters used to specify the report output:

- Report Data Filter

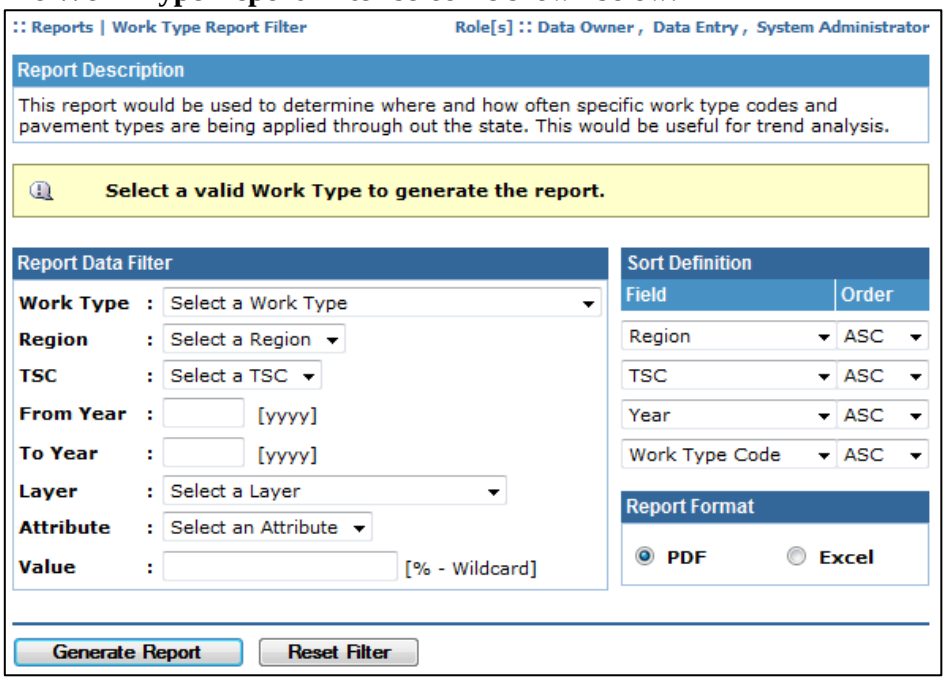
The following panes specify the report appearance:

- Sort Definition
- Report Format

Getting Started

(Continued)

The **Work Type Report Filter** screen is shown below:



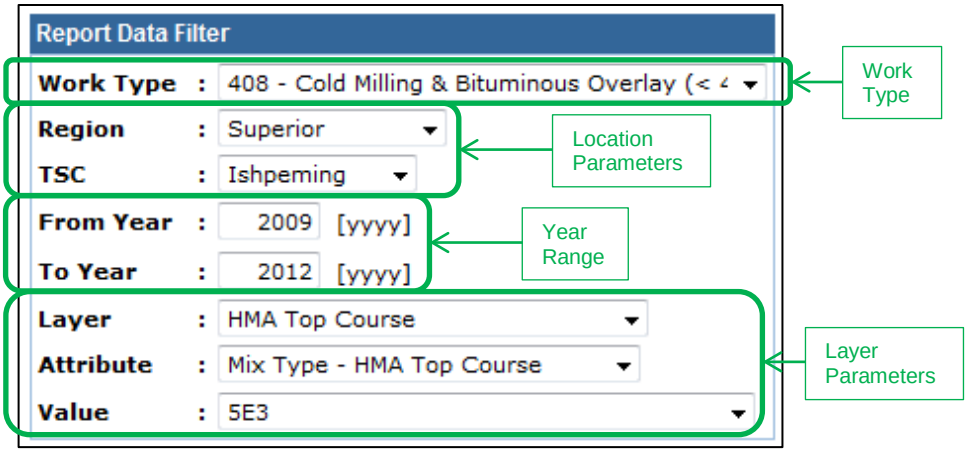
Report Data Filter

Use the **Report Data Filter** pane to specify the following filters:

- Select the appropriate **Work Type** from the drop-down list.
- Select the location parameters from the drop-down lists to specify statewide, **Region**, or **TSC**.
  - Do not make a selection in the Region and TSC drop-down lists to specify a statewide filter.
- In the **From Year** and **To Year** text boxes, enter the years to specify the year range. The segment year is identified by its open to traffic, let, or start date. The date type is determined by which type can be obtained from the segment's job.
  - For example, if 2008 to 2010 were entered, then segments with dates from 1/1/2008 to 12/31/2010 will be located.
- Select the layer parameters from the drop-down lists to specify the **Layer**, layer **Attribute**, or layer attribute **Value**.

Report Data Filter

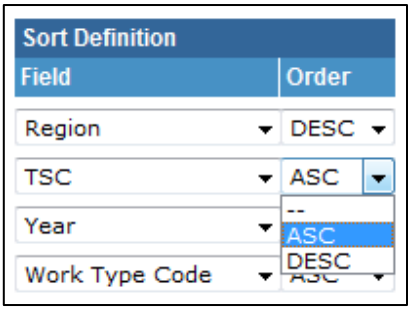
(Continued)



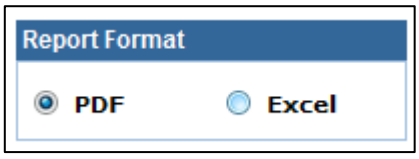
After selections have been made and the **Sort Definition** and **Report Format** are specified (see next section), the *Generate Report* button can be selected to obtain the report. Alternatively, select *Reset Filter* to clear all selections and set all filters back to the defaults.

Sort Definition & Report Format

Use the **Sort Definition** pane to define the order of the segments in the report list. Segments can be sorted by their **Region**, **TSC**, **Year**, and/or **Work Type Code**. These fields can be defined in ascending or descending order. Fields are shown in order of operation, so the field shown on the top is the first sort option followed by fields shown below.



Use the **Report Format** pane to select the report format. The report can be output in PDF or Excel format. The default selection is PDF format.



Work Type Report Output

To generate the **Work Type Report** output, the **Report Data Filter** pane filters and selections need to be specified. Additionally, the selections in the **Sort Definition** and **Report Format** panes should be verified and changed if needed.

Once conditions are specified, the *Generate Report* button can be selected to produce the output. Following this selection, a PDF or Excel spreadsheet pop-up window will appear (based on the selected format).

The PDF or spreadsheet can be saved to the computer by selecting 'File' and 'Save As…' from the menu bar. Additionally, the PDF or spreadsheet can be printed by selecting 'File' and 'Print' from the menu bar.

An example **Work Type Report** is specified as follows:

- In the **Report Data Filter** pane, the following filters and selections were specified:
  - Work Type Code: *140 - Bituminous Resurfacing*
  - Region: *Southwest*
    - TSC: *Marshall*
  - From Year: *2008*
  - End of Year: *2013*
  - Layer: *None*
    - Attribute: *None*
      - Value: *None*
- In the **Sort Definition** pane, the *defaults* were retained.
- In the **Report Format** pane, the *default* was retained (PDF).

Work Type Report

Job Number	Region	TSC	Route	PR Number	PR BMP	PR EMP	Lane Miles	Date	Work Type
60527	Southwest	Marshall	I-94	1296506	0	2.45	4.90	02/01/2008[b]	140 - Bituminous Resurfacing
60527	Southwest	Marshall	I-94	1297009	0	2.45	4.90	02/01/2008[b]	140 - Bituminous Resurfacing
89940	Southwest	Marshall	M-43	983008	1.652	5.314	7.32	09/03/2009[b]	140 - Bituminous Resurfacing
89940	Southwest	Marshall	M-43	983603	1.285	1.978	1.39	09/03/2009[b]	140 - Bituminous Resurfacing
89940	Southwest	Marshall	M-43	983602	0	0.479	0.96	09/03/2009[b]	140 - Bituminous Resurfacing
86970	Southwest	Marshall	I-94	1297009	22.772	30.214	14.88	03/04/2011[b]	140 - Bituminous Resurfacing
89939	Southwest	Marshall	M-37	982805	2.423	2.466	0.17	06/21/2013[a]	140 - Bituminous Resurfacing
89939	Southwest	Marshall	M-37	983008	0.125	0.301	0.88	06/21/2013[a]	140 - Bituminous Resurfacing
89939	Southwest	Marshall	M-37	982909	0.193	0.575	1.15	06/21/2013[a]	140 - Bituminous Resurfacing
							Total Lane Miles : 36.55		

[a] - Open to Traffic Date / [b] - Let Date / [c] - A Phase Start Date

8.1.6 - MAP Reconciliation

Summary

The **MAP Reconciliation Report** shows projects from the MAP database that are not yet entered into PHD. These projects can be filtered by location, Funding Template, Work Type Code, and letting year range.

Note: The **MAP Reconciliation Report** considers MAP projects as entered in PHD when a MAP job is created. Therefore, projects not shown as missing might not be finalized in the PHD database. It is possible that these projects are still in a user's **Modify** area or in the **Review** area.

The report displays table(s) with rows defined by the MAP projects not yet entered into PHD and column headers that identify job number, route, county, work type, Funding Template, if job was let, and let date. Multiple tables indicate different groups of Region or TSC projects. The top of each table identifies the Region and/or TSC associated to that table. Additionally, the top heading indicates how many non-entered projects are in the group and the completion percentage of that group (as compared to the jobs in PHD). The specified filters are shown in a table at the top of the report.

The missing project search can be filtered by:

- Location including statewide, Region, or TSC.
- Funding Template type.
- Work Type per Work Type Code.
- Year Range of MAP Project let date.

If the filter location is left as statewide, the report can list jobs by Region or list jobs by TSC. If the filter location is specified by a Region or TSC, the report will list jobs by TSC only.

The report outputs in PDF format.

The **MAP Reconciliation Report** can help **Data Entry** users locate projects for data entry. It can also help users verify that all MAP projects are entered. The report can help locate older projects that may have been overlooked.

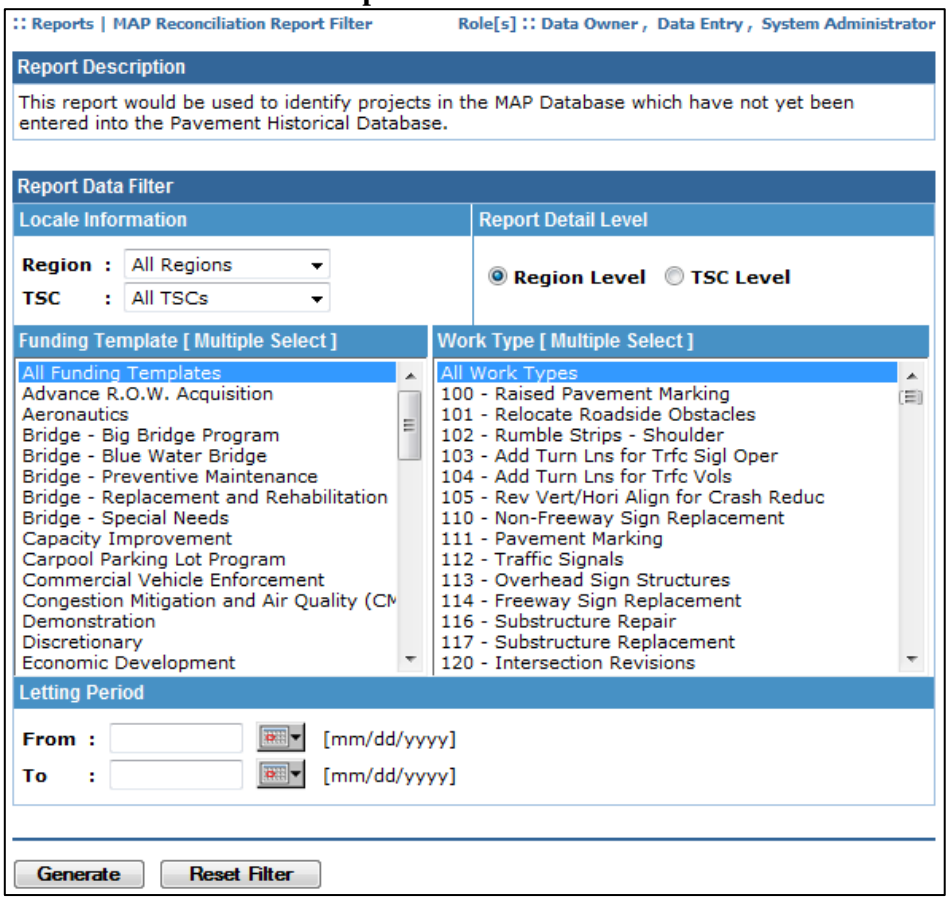
Getting Started

To create a **MAP Reconciliation Report**, select the **MAP Reconciliation** submenu from the **Reports** menu. This menu can be accessed by **all** PHD user types.

After the submenu selection, the **MAP Reconciliation Report Filter** screen will display. The following pane contains the filters used to specify the report output:

- Report Data Filter
  - Locale Information (filter)
  - Funding Template (filter)
  - Work Type (filter)
  - Letting Period (filter)
  - Report Detail Level (specifies the report appearance)

The **MAP Reconciliation Report Filter** screen is shown below:



Report Data Filter

The **Report Data Filter** pane is divided into 5 parts - 4 sections define the report filters and 1 section specifies how the report will look. The missing MAP projects that meet the requirements of the selected filters will be shown in the report.

Filter Sections:

- Locale Information
  - Select the location parameters from the drop-down lists to specify statewide, **Region**, or **TSC**.
  - Not specifying the **Region** or **TSC** will produce a statewide report.
- Funding Template
  - Select the appropriate **Funding Template** type.
  - Multiple types can be selected at once. Do this by holding the Ctrl key and clicking all desired Funding Template types. Alternatively, the user can click a type, then hold the Shift key, and click another type to select both and all other between them. To deselect the multiple selection, click any of the types without holding the Ctrl or Shift keys.
- Work Type
  - Select the appropriate **Work Type**.
  - Multiple types can be selected at once. Follow the instructions above in Funding Template to make multiple selections.
- Letting Period
  - In the **From** and **To** text boxes, enter the appropriate let date year range. Alternatively, select the calendar to navigate, locate, and click the date from the calendar. The date will be filled in the text box after the selection is made.
  - Both dates do not need to be specified. For example, entering a date in the **From** text box with start the filter from that date and show all jobs to the current date.
  - Not specifying either dates will produce a report showing all projects for all years within the MAP database.

Appearance Sections:

- Report Detail Level
  - If the filter location is not specified and left as statewide, the report can list jobs by Region or list jobs by TSC. Select the **Region Level** or **TSC Level** radio button to make this selection.
  - If the filter location is specified by a Region or TSC, the report will list jobs by TSC only and the **TSC Level** will be selected. In this case, the **Region Level** radio button cannot be selected.

Report Data Filter

(Continued)

Report exceptions and cautionary items:

- There are Funding Templates and Work Types that are not typically associated to pavement related work, but sometimes these projects will contain pavement related work.
  - Funding Template examples include Bridge or CMAQ.
  - Work Type examples include Pavement Marking or New Technologies.
- Projects that are let in the later part of the year may be constructed during the next construction season.
  - For example, a project let in September may not be started until April. Other projects may take more than one season to construct.
- A MAP project can have a let date in the past and the report may indicate that the job is not let. This can occur when the actual let date is left blank in MPINS.
  - A Project might not have an actual let date because it is included in other jobs (where the let date is assigned), doesn't have actual work associated with it, is used as a funding placeholder, or because of other miscellaneous reasons.

MAP Reconciliation Report Output

To generate the **MAP Reconciliation Report** output, the **Report Data Filter** pane filters and selections need to be specified.

Once conditions are specified, the *Generate* button can be selected to produce the output. Following this selection, a PDF spreadsheet pop-up window will appear.

The PDF can be saved to the computer by selecting 'File' and 'Save As…' from the menu bar. Additionally, the PDF can be printed by selecting 'File' and 'Print' from the menu bar.

MAP Reconciliation Report Output

(Continued)

An example **MAP Reconciliation Report** is specified as follows:

- In the **Report Data Filter** pane, the following filters and selections were specified:
  - Region: *University*
  - TSC: *All TSCs (default)*
  - Funding Template:
    - *Road – Rehabilitation and Reconstruction*
  - Work Type:
    - *140 – Bituminous Resurfacing*
    - *141 – Bit Resurf & Bit Shlders*
    - *142 – Resurf, Mill & Pulver*
    - *143 – Bit Resurf & Minor Widening*
  - Letting Period:
    - From: *01/01/2008*
    - To: *12/31/2008*
  - Report Detail Level: *TSC Level (default)*

MAP Reconciliation Report - TSC Level

Report Filter Criteria

Region	TSC	Work Type(s)	Funding Template(s)	Time Period
University	All	140-Bituminous Resurfacing 141-Bit Resurf & Bit Shlders 142-Resurf, Mill & Pulver 143-Bit Resurf & Minor Widening	Road - Rehabilitation and Reconstruction	01/01/2008 - 12/31/2008

Report Data

Region	TSC	No. of Outstanding MAP Jobs (Jobs not yet in PHD)	Percentage of existing MAP Jobs in PHD
University	Brighton	1	50% - [1 / 2]

Job Number	Major Route	Major County	Major Work Type	Funding Template	Is Let Job?	Let Date
56971	M125	Monroe	142 - Resurf, Mill & Pulver	Road - Rehabilitation and Reconstruction	Y	03/07/2008

Region	TSC	No. of Outstanding MAP Jobs (Jobs not yet in PHD)	Percentage of existing MAP Jobs in PHD
University	Jackson	1	50% - [1 / 2]

Job Number	Major Route	Major County	Major Work Type	Funding Template	Is Let Job?	Let Date
79567	US-12	Hillsdale	142 - Resurf, Mill & Pulver	Road - Rehabilitation and Reconstruction	Y	03/07/2008

Region	TSC	No. of Outstanding MAP Jobs (Jobs not yet in PHD)	Percentage of existing MAP Jobs in PHD
University	Lansing	1	50% - [1 / 2]

Job Number	Major Route	Major County	Major Work Type	Funding Template	Is Let Job?	Let Date
75200	M-52	Shiawassee	140 - Bituminous Resurfacing	Road - Rehabilitation and Reconstruction	Y	02/01/2008

Summary	No. of Outstanding MAP Jobs (Jobs not yet in PHD)	Percentage of existing MAP Jobs in PHD
Regional	3	50% - [3 / 6]

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PHD *User Guide*

Chapter 9

Administrative Functions

9.1 - System Administrator

Summary

PHD **System Administrator** users support and maintain PHD function, assign user rights, and provide aid to PHD users. Only **Administrator** users can access the PHD **Administration** menu.

Outside of PHD, but within SSO, **Administrator** users must gain access to the **SAM - Systems Access Manager** to approve PHD user access and assign PHD user Roles. See 9.2 - Approve PHD Access and Assign Roles in SAM for further details.

Within PHD, **Administrator** users have unique access to the **Administration** menu. This menu allows **Administrator** users to unlock jobs and assign user Assignment Locations, system units, layers, and layer attributes. For further details on the Administration menu and its submenus, see 9.3 - PHD Administration Menu. The Administration menu submenus are outlined in the table below:

Submenu	Description
View/Modify User	Locates approved PHD users to set or change their Assignment Locations.
Create Unit	Use to create and assign English and Metric measurement units. The created measurements can be assigned to created layer attributes in the *Create Attribute* and *View/Modify Attribute* submenus.
View/Modify Unit	View and select the created measurement units to edit them. The measurement units shown in this submenu are first created in the *Create Unit* submenu.
Create Attribute	Use to create attributes that can be assigned to layers.
View/Modify Attribute	View and select the created attributes to edit them. The attributes shown in this submenu are first created in the *Create Attribute* submenu.
Create Layer	Use to create layers and assign created attributes to these layers. The attributes can only be added if they are first created in the *Create Attribute* submenu.
View/Modify Layer	View and select the created layers to edit them. The layers shown in this submenu are first created in the *Create Layer* submenu.
Unlock Report	Use to unlock jobs from the PHD database. These are jobs that have been finalized by Data Owner users, but require further editing. By unlocking a specified job, the job will be sent back to the Modify area of the Data Owner user who finalized it.

9.2 - Approve PHD Access and Assign Roles in SAM

Summary

To approve access and assign user roles to PHD, Administrators must gain access to the **SAM - System Access Manager** application. Similar to the PHD application, this application is accessed through the SSO webpage.

Access SAM - System Access Manager

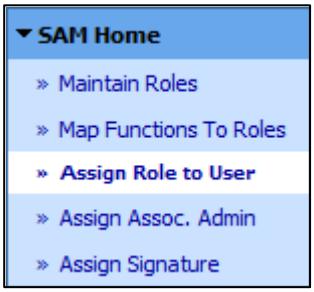
SAM - System Access Manager is accessed through the State of Michigan Single Sign On (SSO) webpage. After signing in to SSO, SAM can be selected from the list of user subscribed applications.

After signing in to SSO, subscribe to the SAM SSO application by selecting the *Subscribe to Applications* link at the bottom of the Application Portal page. In the Subscription page, select *Dept of Transportation* in the left drop-down list and then select *SAM - System Access Manager* in the right drop-down list. Continue and confirm the next pages. The message "Your subscription request has been submitted successfully. You will be notified upon approval" should appear upon completion. The SAM application request will be sent for approval. After the user is approved and assigned as a SAM PHD Admin, **SAM - System Access Manager** will be shown in the Application Portal. If this does not occur within a few business days, email the SAM System Administrator to verify.

To contact the SAM Application System Administrator email: **escha@michigan.gov**

9.2.1 - Approve PHD Access and Assign PHD Roles in SAM

Approve PHD Access



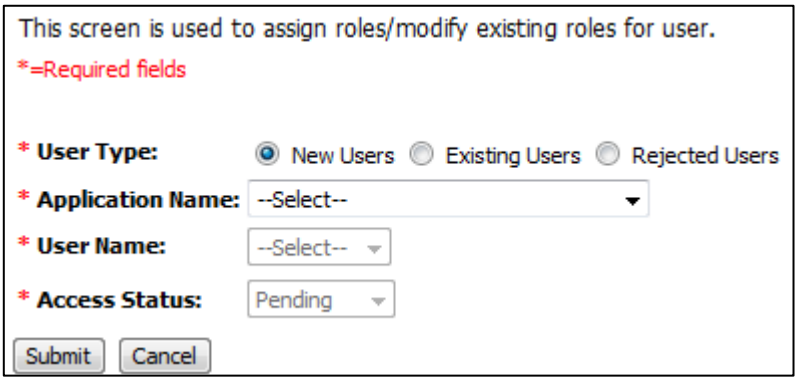
Select the **Assign Role to User** submenu from the **SAM Home** menu to begin approving PHD user access. The selected screen will show a list of selectable options.

Approve PHD Access

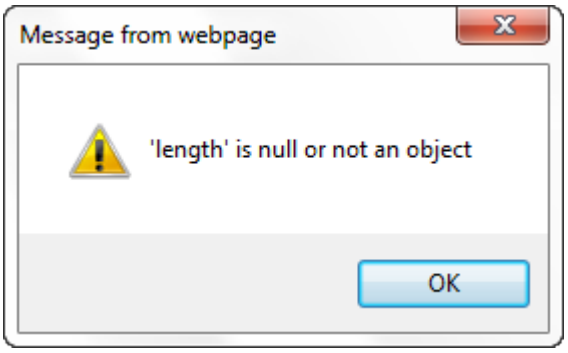
(Continued)

To approve PHD new user access, select the *New Users* radio button for **User Type**. For **Application Name**, select *PHD (Pavement Historical Database)* from the drop-down list. For **User Name**, select a *user* from the drop-down list. For **Access Status**, select *Approve* or *Reject* from the drop-down list.

If the user is *Approved*, their name will appear in the *Existing Users* list, and if the user is *Rejected*, their name will appear in the *Rejected Users* list. Select either of the associated radio buttons to change a user's **Access Status**.



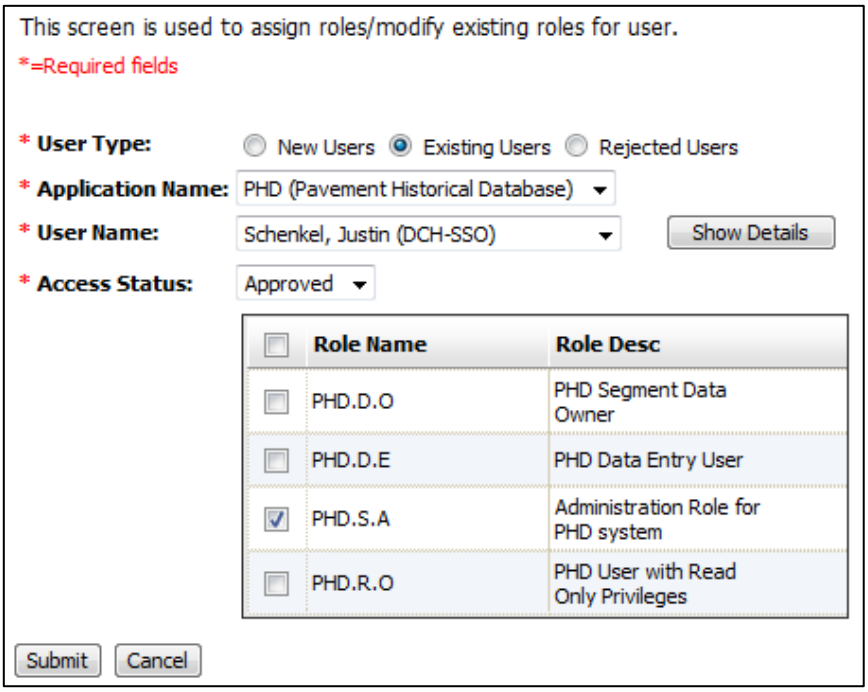
Note: If there are no new users requesting access, a pop-up window will appear to indicate this information. It will appear as following:



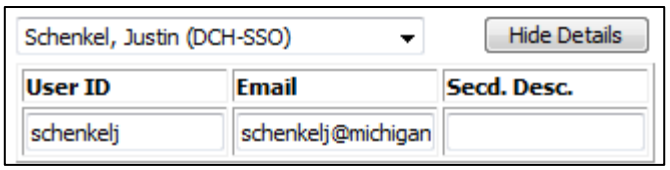
Assign PHD Roles

Select the **Assign Role to User** submenu from the **SAM Home** menu to begin assigning PHD user Roles. The selected screen will show a list of selectable options.

To assign PHD user Role, select the *Existing Users* radio button for **User Type**. For **Application Name**, select *PHD (Pavement Historical Database)* from the drop-down list. For **User Name**, select a *user* from the drop-down list. For **Access Status**, keep the status as *Approve* (or select *Reject* to remove the user from PHD). In the table below, select the appropriate Role(s) for the user. Select *Submit* to complete the user assignment.



Note: Select Show Details to show the selected User ID and Email. The following is an example:



9.3 - PHD Administration Menu

Summary

Only **Administrator** users can access the PHD **Administration** menu. This menu allows **Administrator** users to unlock jobs and assign user Assignment Locations, system units, layers, and layer attributes.

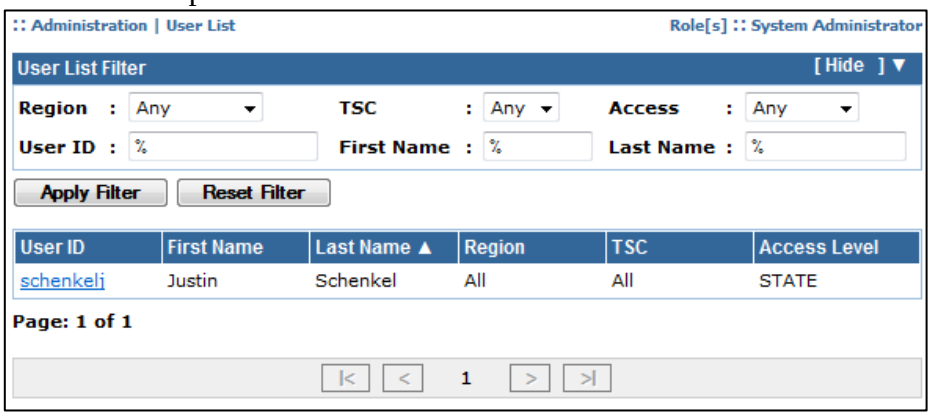
The **Administration** menu submenus include **View/Modify User**, **Create Unit**, **View/Modify Unit**, **Create Attribute**, **View/Modify Attribute**, **Create Layer**, **View/Modify Layer**, and **Unlock Report**.

9.3.1 - Assign Assignment Locations

View/Modify User

Select the **View/Modify Users** submenu from the **Administration** menu to begin assigning PHD user Assignment Locations.

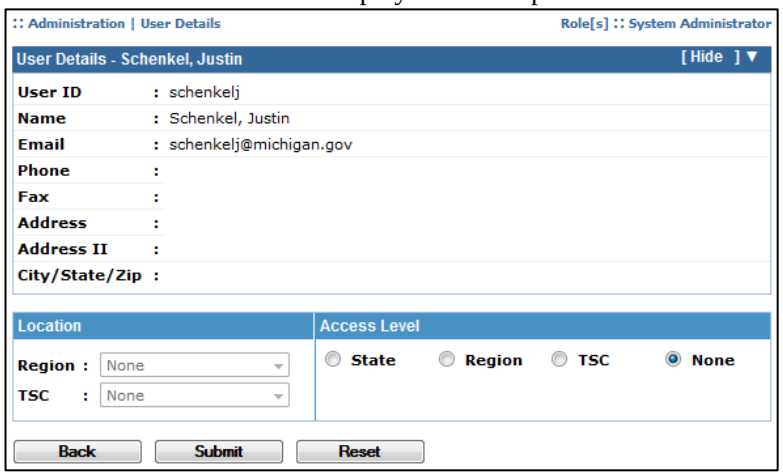
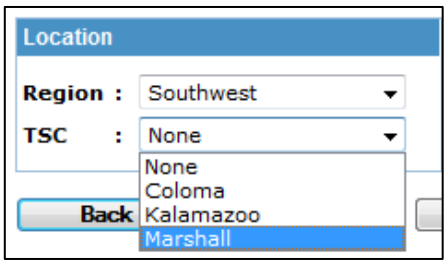
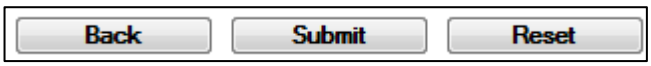
The **User List** screen will display. This screen will be populated with all users. An example of this screen is shown below:



- Click the User ID to open their **User Details** screen.
- Use the Search Filter to narrow results in the displayed list.
- Use the pagination bar to move forward or back in the list.
- See 2.3 - List Features for further search specific information.

Once a user has approval to access PHD, their User ID and name appear in the User List table. New users are automatically designated to a N/A Region and TSC and their Access Level is set to NONE.

Use the steps in the following table to assign user Assignment Location:

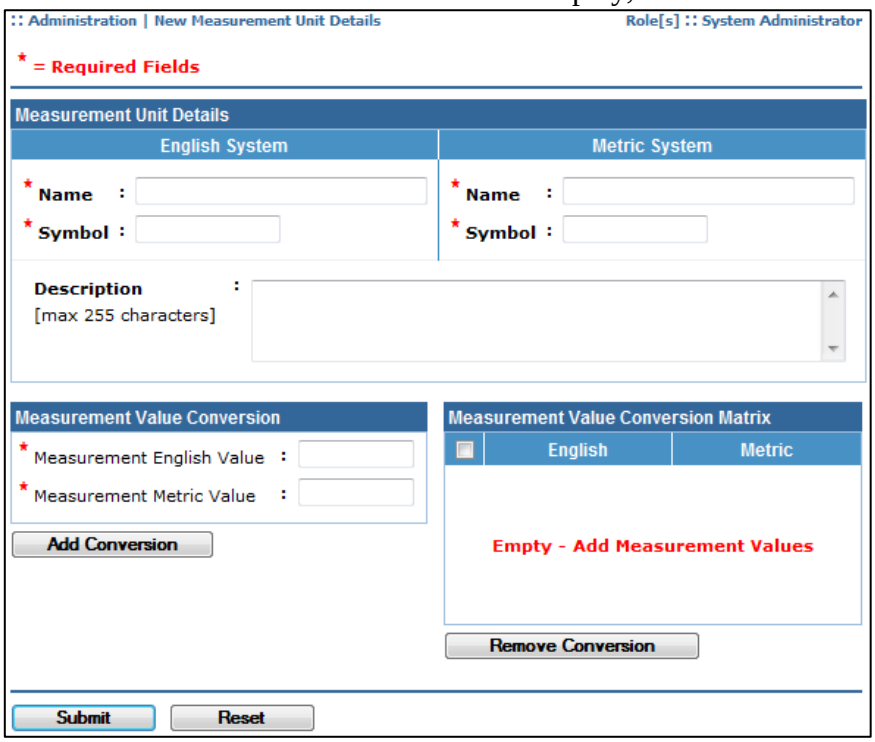
Step#	Steps to Assign User Assignment Location
1	Click the User ID.  • The **User Details** screen will display. An example is shown below: 
2	In the **Access Level** section, click the appropriate *Access Level* associated to the user.  For example, a Data Entry user at Marshall TSC would require the *TSC Access Level*, the Southwest Region Liaison would require *Region Access Level*, and PHD Administrators would require *State Access Level*.
3	If *Region* or *TSC* are selected in the **Access Level** section, the associated location must be assigned. In the **Location** section, select the *Region* drop-down list to indicate the appropriate user Region. For the *TSC* drop-down list, select the user TSC if applicable.  For example, a Data Entry user at the Marshall TSC would be assigned to the *Southwest Region* and *Marshall TSC*.
4	Select one of the following buttons at the bottom of the screen: • Click **Submit** to save the user **Assignment Location** and return to the **User List** screen. • Click **Reset** to undo all changes to the **Assignment Location**. • Click **Back** to return to the **User List** screen without saving (all changes will be lost). 

9.3.2 - Create & Edit Measurement Units

Create Unit

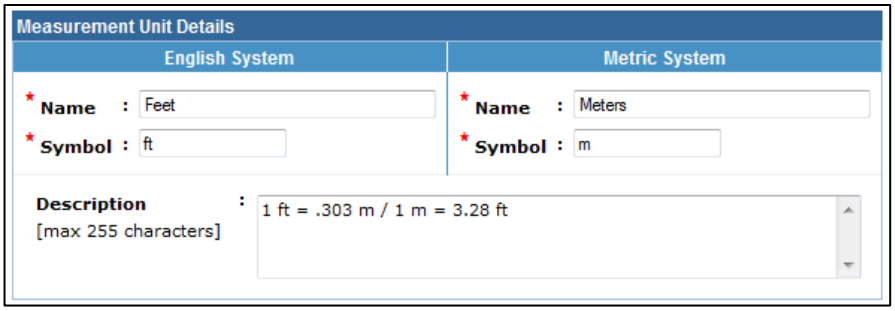
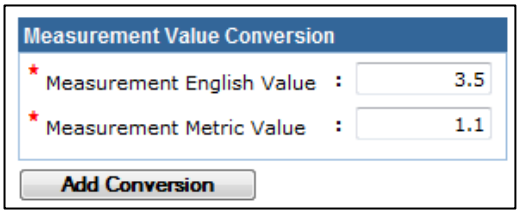
Select the **Create Unit** submenu from the **Administration** menu to create a PHD measurement unit.

The **Measurement Unit Details** screen will display, as shown below:

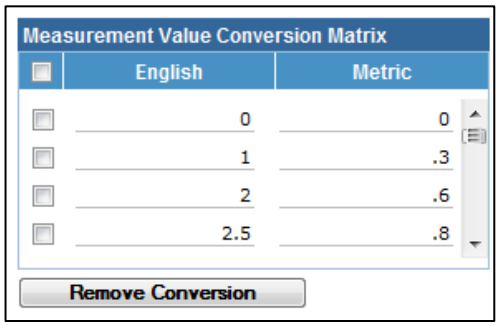
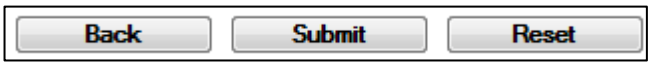


The created measurements can be assigned to created layer attributes in the **Create Attribute** and **View/Modify Attribute** submenus (see 9.3.3 - Create & Edit Layer Attributes).

Use the steps in the following table to create an English/Metric unit system and assign its associated measurement values:

Step#	Steps to Create and Edit a Measurement Unit System
1	In the **Measurement Unit Details** pane: • Enter the **English System** *name* and representative *symbol* in the associated text boxes. • Enter the **Metric System** *name* and representative *symbol* in the associated text boxes. • Optional - Enter text into the *Description* text box that explains the English/Metric unit conversion and/or relationship.  The English System and Metric System should be associated so that a conversion can be made from one to the other.
2	In the **Measurement Value Conversion** pane: • Enter the **English System** *value* to be used by a layer attribute. • Enter the **Metric System** *value* to be used by a layer attribute. • Click **Add Conversion** when complete. *Continue to repeat this process until all appropriate *values* are added.  The English System and Metric System values should be associated so that a conversion can be made from one to the other.

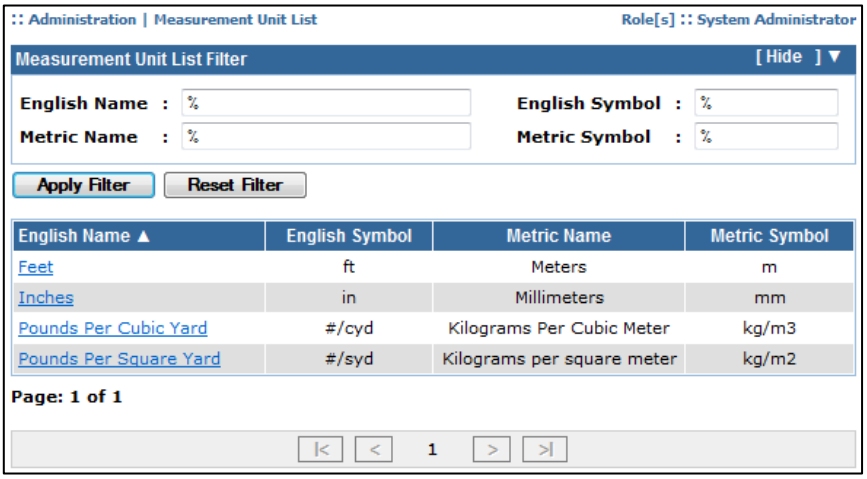
Continued >

Step#	Steps to Create and Edit a Measurement Unit System
3	Added *values* from *Step 2* will appear in the **Measurement Value Conversion Matrix** pane. Added *values* can be **viewed** and **removed** in this pane. To **remove** a set of *values*: • Select the appropriate *values* **check box** or **boxes**. • Click **Remove Conversion** when complete. 
4	Select one of the following buttons at the bottom of the screen: • Click **Submit** to save the **Measurement Unit**. o It will be stored in the **View/Modify Unit** submenu. • Click **Reset** to undo all changes to the **Measurement Unit**. • If screen is entered from the **View/Modify Unit** submenu - Click **Back** to return to the **Measurement Unit List** screen without saving (all changes will be lost). 

View/Modify Unit

Select the **View/Modify Unit** submenu from the **Administration** menu to locate and edit PHD measurement units that were created in the **Create Unit** submenu.

The **Measurement Unit List** screen will display. This screen will be populated with the created measurement units. An example of this screen is shown below:



View/Modify Unit

(Continued)

- Click the English Name to open its **Measurement Unit Details** screen.
- Use the Search Filter to narrow results in the displayed list.
- Use the pagination bar to move forward or back in the list.
- See 2.3 - List Features for further search specific information.

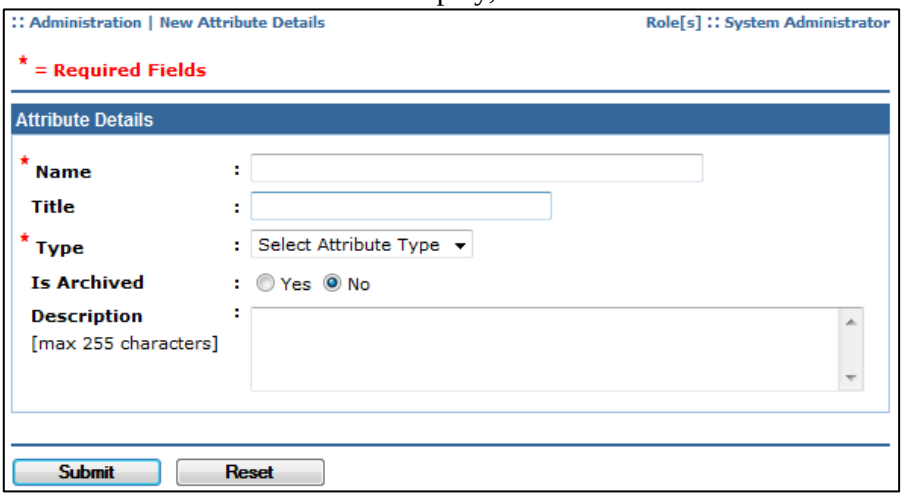
View and select the created measurement units to edit them. To edit or add values to a measurement unit, see 9.3.2 - Create & Edit Measurement Units: Create Unit.

9.3.3 - Create & Edit Layer Attributes

Create Attribute

Select the **Create Attribute** submenu from the **Administration** menu to create a PHD layer attribute.

The **Attribute Details** screen will display, as shown below:

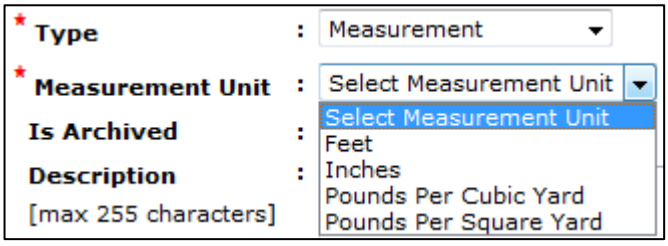


The created attributes can be assigned to created layers in the **Create Layer** and **View/Modify Layer** submenus (see 9.3.4 - Create & Edit Layers).

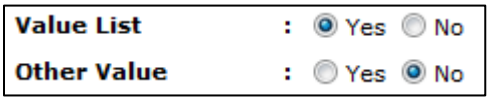
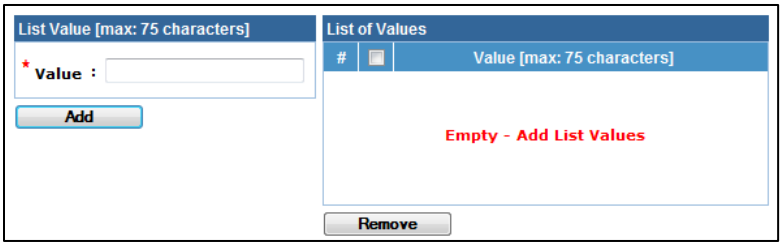
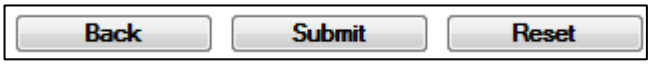
Attributes can be one of four types including *Measurement*, *Numeric*, *Text*, or *Yes/No*.

- **Measurement** attribute type:
  - Provides a drop-down list of values based on a measurement unit created in the **Create Unit** submenu.
- **Numeric** or **Text** attribute type:
  - Requires a manually entered *value* or provides a drop-down *list of values* assigned in the **Attribute Details** screen.
- **Yes/No** attribute type:
  - Provides a *Yes* or *No* radio button selection.

Use the steps in the following table to create a layer attribute:

Step#	Steps to Create and Edit a Layer Attribute
1	In the **Attribute Details** pane: • Enter the attribute *name* in the associated text box. o The name is the attribute identifier shown in the **View/Modify Attribute** submenu. o The name is only visible to **Administrator** users. • Optional - Enter the attribute *title* in the associated text box. o The title will be shown in the **Layer Details** screen as the primary callout for the attribute. It is shown in bold in the example below:  o Unlike the name, the title is visible to **Data Entry** and **Data Owner** users when they are entering data. • Select the attribute *type* from the drop-down list: o *Measurement* o *Numeric* o *Text* o *Yes/No* • Optional - For the *Is Archived* item, select *Yes* to no longer display the attribute in the **Layer Details** screen. o This will continue to allow searches and reports on its information already stored in PHD, but not allow users to add new information. o This selection is made because an attribute was created, but is no longer appropriate for data entry. An attribute *name* may be different than the attribute *title* because multiple attributes may be identified by similar titles, but may require distinct values. To distinguish the different attributes, they can be separated by names and maintain identical titles.
2	Based on the selection made for the attribute *type* drop-down list in *Step 1*: • If **Measurement** type: o The *Measurement Unit* selection will appear - ▪ Select the appropriate *Measurement Unit* from the drop-down list. • The measurement units shown in this list are populated by units previously created in the **Create Unit** submenu. 

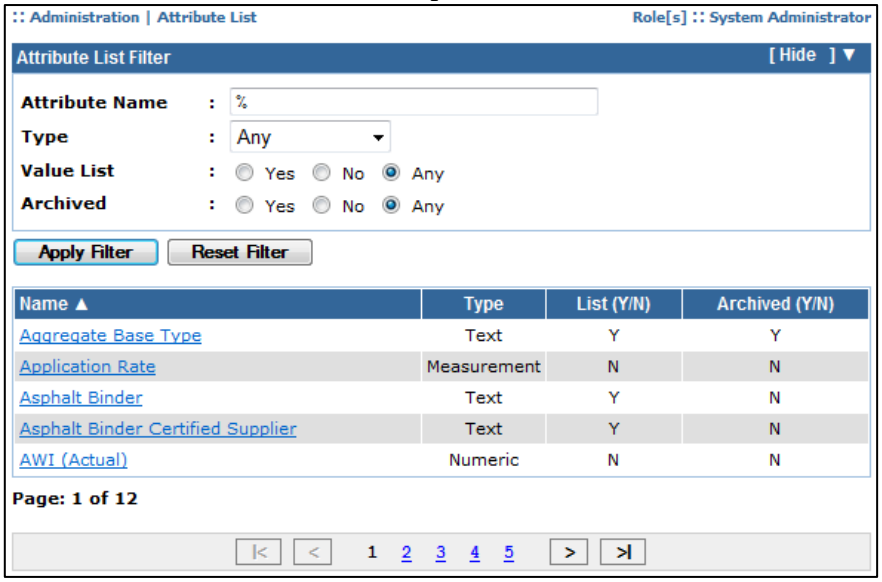
Continued >

Step#	Steps to Create and Edit a Layer Attribute
2 ***(Cont.)***	• If **Numeric** or **Text** type: o The *Value List* selection will appear - ▪ Select *Yes* to assign the values that a user can choose from, or select *No* to only allow user manually entered values. ▪ If Yes, the *Other Value* selection and **List Value** panes will appear - • For *Other Value*, select *Yes* to show *Other* as choice in the list of values that a user can choose from. If the user selects *Other* from the list, they will be able to manually enter the value.  • In the **List Value** pane, enter a *value* in the associated text box and click *Add*. Repeat this process until all needed values are entered. Values can be viewed and removed in the **List of Values** pane.  • If **Yes/No** type: o No additional selection options appear.
3	Select one of the following buttons at the bottom of the screen: • Click **Submit** to save the **Attribute**. o It will be stored in the **View/Modify Attribute** submenu. • Click **Reset** to undo all changes to the **Attribute**. • If screen is entered from the **View/Modify Attribute** submenu - Click **Back** to return to the **Attribute List** screen without saving (all changes will be lost). 

View/Modify Attribute

Select the **View/Modify Attribute** submenu from the **Administration** menu to locate and edit PHD layer attributes that were created in the **Create Attribute** submenu.

The **Attribute List** screen will display. This screen will be populated with the created attributes. An example of this screen is shown below:



- Click the Attribute Name to open its **Attribute Details** screen.
- Use the Search Filter to narrow results in the displayed list.
- Use the pagination bar to move forward or back in the list.
- See 2.3 - List Features for further search specific information.

View and select the created attributes to edit them. To edit or add values to an attribute, see 9.3.3 - Create & Edit Layer Attributes: Create Attribute.

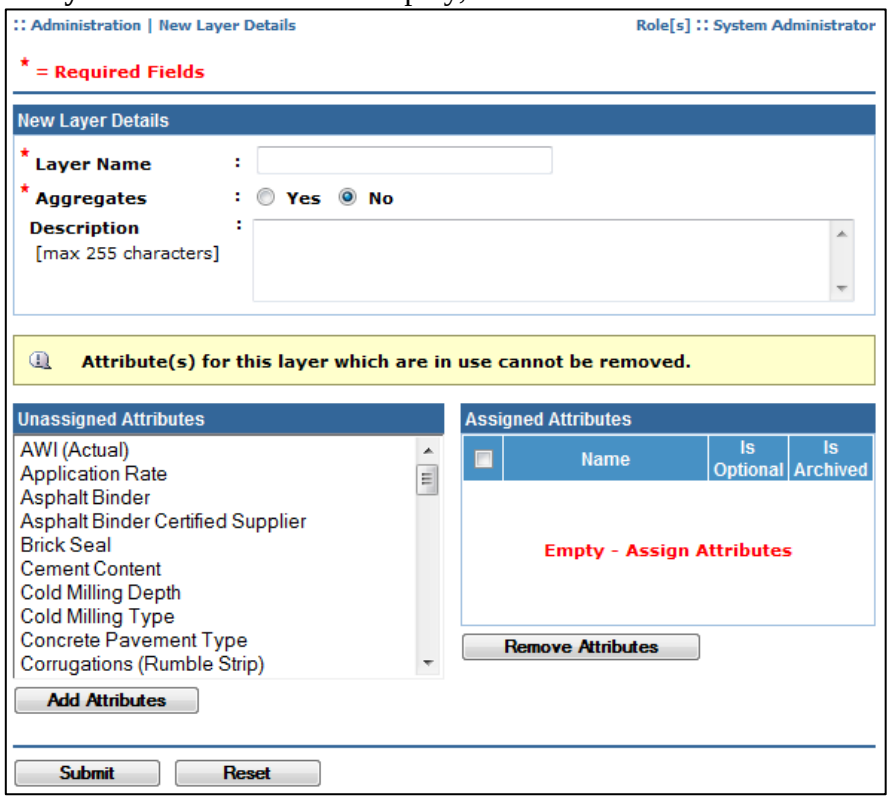
If the attribute is in use, the attribute *type* and type selection options cannot be changed. However, the **List Value** pane can still be used to add or remove *values*.

9.3.4 - Create & Edit Layers

Create Layer

Select the **Create Layer** submenu from the **Administration** menu to create a PHD layer.

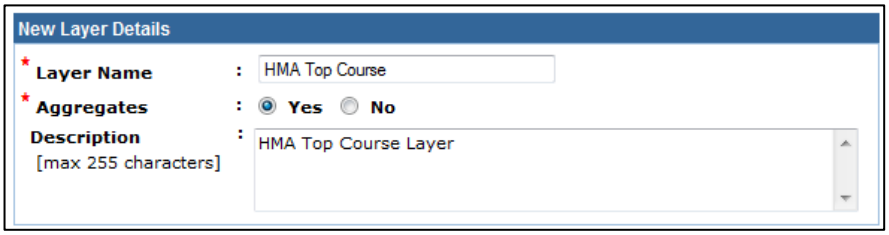
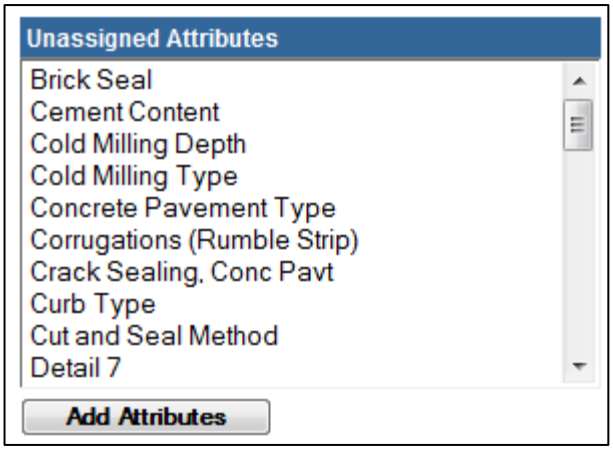
The **Layer Details** screen will display, as shown below:



The **Layer Details** screen contains the 3 following panes:

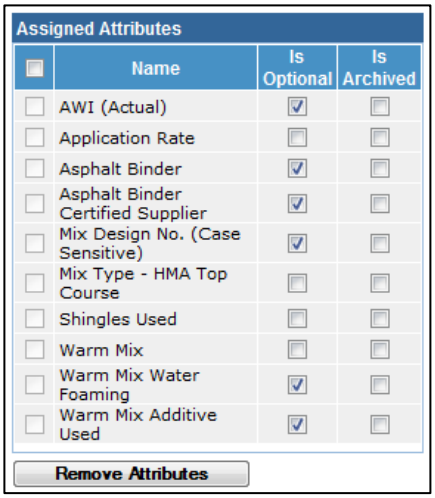
- **Layer Details** pane
  - This pane is used to define the layer and indicate if aggregates are used in this layer.
- **Unassigned Attributes** pane
  - This pane is used to add the attributes that were previously created in the **Create Attribute** submenu. These attributes will be the layer inputs that users define in data entry.
- **Assigned Attributes** pane
  - This pane is used to view the added attributes, assign the attribute as optional for data entry, archive no longer needed attributes, or remove added attributes.

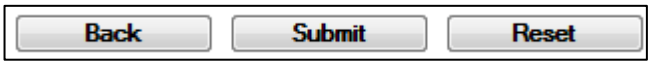
Use the steps in the following table to create a layer attribute:

Step#	Steps to Create and Edit a Layer
1	In the **Layer Details** pane: • Enter the layer *name* in the associated text box. • For *Aggregates*, select *Yes* or *No*: o *Yes* indicates that the layer uses aggregates and will require aggregate names and souce/pit information. o *No* indicates that the layer does not use aggregates, so they do not need to be recorded in data entry. • Optional - Enter text into the *Description* text box that defines the layer in greater detail. 
2	In the **Unassigned Attributes** pane: • Select the **Attribute** to be added and used in the layer. • Click **Add Attribute** when complete. *Continue to repeat this process until all appropriate *attributes* are added. 

Continued >

Step#	Steps to Create and Edit a Layer
3	Added *attributes* from *Step 2* will appear in the **Assigned Attributes** pane. Added layer *attributes* can be **viewed**, made **optional** for data entry, assigned to **archive**, or **removed** from the layer in this pane. To make an *attribute* **optional** in data entry: • Select the appropriate *attribute* **check box(es)** under the heading 'Is Optional'. o The attribute will not be required for this layer in data entry. To **archive** an *attribute* and remove it from data entry: • Select the appropriate *attribute* **check box(es)** under the heading 'Is Archived'. o The attribute can be searched and shown in reports, but will not be shown in data entry. o This selection is made when an attribute was created and used, but is no longer appropriate for data entry. To **remove** an *attribute*: • Select each appropriate *attribute* **check box** (shown on the left side). • Click **Remove Attribute** when complete. o The remove check box will not be selectable if the attribute is in use. To remove the attribute from data entry, refer to the archive option above.
4	Select one of the following buttons at the bottom of the screen: • Click **Submit** to save the **Attribute**. o It will be stored in the **View/Modify Layer** submenu. • Click **Reset** to undo all changes to the **Layer**. • If screen is entered from the **View/Modify Layer** submenu - Click **Back** to return to the **Layer List** screen without saving (all changes will be lost).

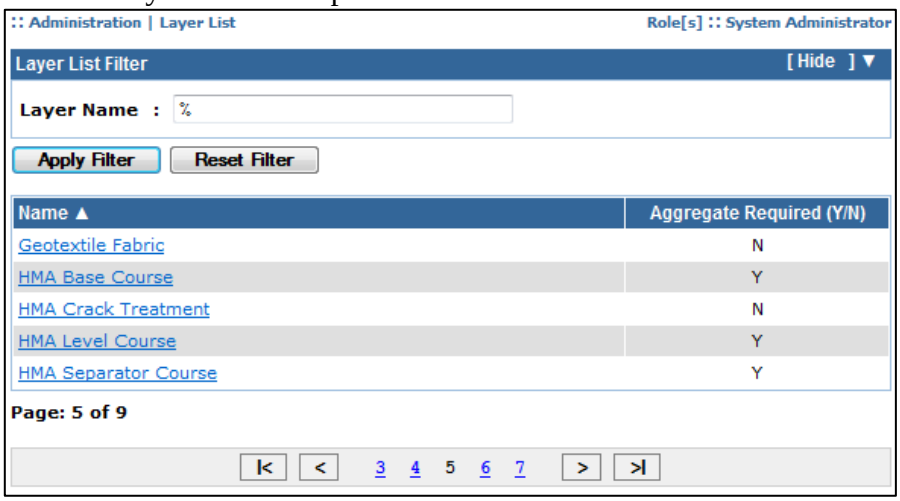




View/Modify Layer

Select the **View/Modify Layer** submenu from the **Administration** menu to locate and edit PHD layers that were created in the **Create Layer** submenu.

The **Layer List** screen will display. This screen will be populated with the created layers. An example of this screen is shown below:



- Click the Layer Name to open its **Layer Details** screen.
- Use the Search Filter to narrow results in the displayed list.
- Use the pagination bar to move forward or back in the list.
- See 2.3 - List Features for further search specific information.

View and select the created layers to edit them. To edit or add attributes to a layer, see 9.3.4 - Create & Edit Layers: Create Layer.

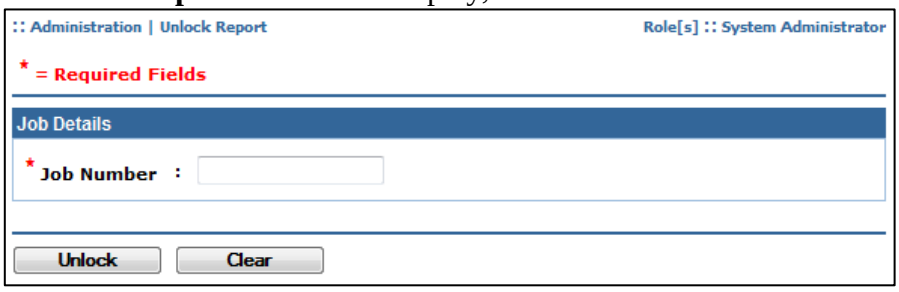
An attribute cannot be removed from the layer if it is used in data entry. Instead, the attribute must be assigned to the archive. This is outlined in *Step 3* of the table **Steps to Create and Edit a Layer**.

9.3.5 - Unlock Finalized Jobs

Unlock Report

Select the **Unlock Report** submenu from the **Administration** menu to unlock jobs from the PHD database.

The **Unlock Report** screen will display, as shown below:



To unlock jobs that were finalized by **Data Owner** users and are now stored in the PHD database:

- Enter the MAP or Non MAP **Job ID** in the text box.
  - The unlock is case sensitive and all entered characters need to identically match the appropriate Job ID.
- Click **Unlock**.
  - Once a job is unlocked, it will be sent to the **Modify** area of the **Data Owner** who finalized it.
  - A green confirmation message will display if the unlock is successful.
  - A red message will display if the job does not exist in PHD.
    - Check if the job is in PHD by using **Search Segments** or the **Construction History Report**. Also, check the entered **Job ID** for character mistakes or incorrect case.